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THE GARDEN

ILLUSTRATED WEEKLY JOURNAL

OF

HORTICULTURE IN ALL ITS BRANCHES.

FOUNDED BY

W. Robinson, Author of the "English Flower Garden."

" You see, sweet maid, we marry
A gentler scion to the wildest stock ;
And make conceive a bark of baser kind
By bud of nobler race : This is an art
Which does mend Nature,—change it rather : but
The art itself is nature."

Shakespeare.

VOL. L.—CHRISTMAS, 1896.

LONDON :

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TO

MR. HENRY ECKFORD

(of Wem)

THE FIFTIETH VOLUME OF "THE GARDEN"

is dedicated,



T. & S.

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The GARDEN.

VOL. L.

FLOWER GARDEN.

WATER LILIES IN AMERICA.

MR. J. N. GERARD, Elizabeth, New Jersey, in reference to some questions of ours as to the distribution of American hardy Water Lilies, sends the following very interesting note:—

The hardy *Nymphaeas* are in their best condition here at present, in their first fulness of bloom after their season of rest. All Water Lilies (hardy and tropical) grow so well in the open in perhaps every section of the United States, that all known species have been introduced into cultivation and the growers have a wealth of material available. In most large places, where an interest is taken in water gardens, may usually be found not only hardy Water Lilies, but also the best of the tropical kinds, both day and night blooming. Almost certainly, also, will be found the glorious *Nelumbium speciosum*, which has been widely disseminated, and becomes naturalized where the warm season is long enough to enable it to form its annual tubers. It will be seen that with this wealth of plants with such varying habits, we have an advantage over less forward countries, and hardy *Nymphaeas* are not of such importance as where the climate is not warm enough to mature the more tender and rapidly growing kinds. We have three native species of *Nymphaeas*—*odorata*, *tuberosa* and *flava*—the first of which is very widely spread, and may be found in numerous forms and in varying tones of pink, as well as pure white. Marliac's beautiful hybrid, however, has given a great impetus to the cultivation of hardy *Nymphaeas*, thus being with out exception unique, or improvements on previously existing kinds. Of course they grow luxuriantly here and are well known. *N. albida* seems to be the largest white-flowered Lily, its blooms—8 inches or more in diameter on well-grown plants—being only approached by those of *N. tuberosa*, a fine species, but one to be avoided, as it will crowd out any other, owing to its strong growth and multiplication by tubers or buds, which it throws off very numerously. *N. Marliacea* seems to be the best pink *Nymphaea*, surpassing our native *N. odorata* roses in size and fine colouring. Our greatest gain from Marliac, however, has been the yellow hybrids *N. Chromatella*, *N. o. sulphurea* is rather the prettiest flower of this trio, but *N. Chromatella* is handsome and a plant for everyone, growing vigorously and always in flower from early spring till after the first frosts. It is easily propagated, everyone of the numerous buds formed on the tubers striking readily. The flesh-coloured *N. carnea* has always grown vigor-

ously here, and the flowers are inferior in size only to those of *N. albida*. The dark pink *N. exquisita* does not stay with me, and does not seem to be much greater. Marliac's smaller-flowered kinds, except *N. Laydekeri*, are scarcely in cultivation yet, but this hybrid is much valued and is very reliable. It does not increase, but the plants grow strongly and flower profusely each season.

It does not seem to be generally known that hardy *Nymphaeas* are perfectly hardy in the fullest sense of that term. They simply require to be left in their natural position, which is under water, but it is not necessary to have them covered with a great depth. My experience with a representative collection grown in cemented tanks is that they are perfectly safe with 4 inches to 6 inches of water over their crowns at a temperature of 10° Fahr., which is ordinarily our minimum here. Of course, the tubers would not be subject to this temperature, being protected by a covering of ice formed at a much higher temperature, and which practically forms a blanket. The difference between success and failure in the cultivation of *Nymphaeas* is usually only a matter of warmth. To plant Water Lilies in running water from a spring is to court certain failure, as such water is not only too cold, but also lacks nutriment. They prosper in quiet pools of moderate depth, say 2½ feet, fully exposed to the sunlight. The original planting should be in sound fibrous, rather heavy loam, with a plentiful supply of perfectly decayed manure. This should not be changed often; firstly, because this reduces the temperature; secondly, because in still waters the plants will take up much available plant food from decomposing insects and organic matter. It will be seen that with this abundant food constantly being added to the usual large assimilating organs or leaves, and abundant supplies of moisture, the grower really has no care except to see that the necessary heat is supplied to keep the laboratory in operation. If the sunniest place in the garden will not secure a summer temperature to even shallow water, the only plan is to add a hot-water circulation from some convenient heater, a matter neither difficult nor expensive. A heater is often so used here for *Vicia regia* tanks and for tropical Lilies, which are required to be grown to the highest perfection, though the latter are grown successfully enough for ordinary cultivators in unheated tanks, but they require more abundant food than the hardy species, and of course annual replanting, which is unnecessary for the latter.

White East Lothian Stocks.—I saw these fine Stocks in superb bloom in a front garden in the village of Byfield recently. They were from seed sown early last summer, the plants being

grown on, and then planted out in the autumn. The mild winter being too kindly to do them harm, they became big clumps of massive, double white flowers. As a rule, it would not do to treat them so roughly, as ordinary winters kill them. When, however, the plants are got during the autumn into 6-inch pots and kept near the light in a cool house or frame, then are potted out in April, they soon get into blossom and produce the best effects. Even when grown in this way from year to year, as had been the case in this instance—the remarkable capacity to develop some 80 per cent. of doubles remains. For ordinary pot culture the dwarfer intermediates are no doubt the best.—A. D.

Carnation Grenadin.—It is astonishing what a grand display can be made with this and as little cost. For several years I have sown a packet of seed. I destroy the old plants as soon as the blooming is over, and I find much the best results are obtained from young plants. My plan is to sow the seeds a box at the end of March in a frame, and as soon as the plants are large enough they are potted out into boxes. Early in July these are planted in their permanent quarters in the open ground. When the buds begin to show I give them two or three waterings with manure water. At the present time I have a splendid lot of bloom, and nothing is more useful to cut from. One of the great merits is that the blooms do not burst. This Carnation does not get affected with the spot, while border and tree kinds are quite badly affected, that to grow them satisfactorily is quite out of the question.—DORSET.

Snowflake Pink.—Bunches of this very beautiful white Pink were shown at the Drill Hall on the 22nd ult. I saw it a day or two previously blooming most profusely amidst other Pinks in the nursery at Eden Hall, Great Bookham, where Mr. J. Douglas has his splendid collection of Carnations. Snowflake Fink there was altogether the best; indeed, such loose burst-podded forms as Mrs. Sinks and Her Majesty, so far regarded as the best white Pinks in cultivation, were far less attractive. Pure white in colour, petals smooth and rounded, not so densely set as to be crumpled, and borne in great profusion, I think no one will care to grow the others once he gets hold of Snowflake. Mrs. Lakin is a handsome white Pink also, but does not seem to be so good a doer as is Snowflake.—A. D.

Nymphaea seed and rats.—At this season one of our most interesting features is the Water Lily pond. The common white Water Lily is the greatest seed boarer. Both rats and mice are very fond of it. When the seed is nearly ripe the rats bring the seed pods to the banks and then clear out every seed. *Nymphaea Marliacea Chromatella*

tella and other of Marliac's hybrids are not free from borer, as far as my experience goes. *N. albota* has the largest flower, and the plant has a strong constitution. *N. Laydekeri rosea* is a fragrant-flowering variety, and should be in every collection, but I have not found a fertile seed after the numerous flowers. *N. rosea* is a strong grower, but not such a free flowerer as *Laydekeri rosea*. There are many other varieties which help to make the pond beautiful with a minimum of trouble. In planting I usually fasten a sod with a little fine earth around the roots and then just drop them into the mud. Our shallow pond of about 2 feet suits them well, and in similar situations Marliac's hybrids, *N. odorata* and the common white Lily should find a place.—W. O. Poole.

FLOWER GARDEN NOTES.

THREE STYLES OF CUT FLOWERS.—With something over 100 species big and little, to fill and the supply to come mainly from outside, it is hardly necessary to say that the arranging of different things to secure a succession, and the selection to meet the several ordinary and special things for which the flowers are required, is not the least important item in flower garden work. The selection of different things turns principally on using flowers that have a comparatively short life in a cut state for purposes in which a display for the time and not the desirability of avoiding early reprimand is the main consideration. Such things as single Peonies and the different varieties of Poppies may, for instance, be used with advantage in the decoration of the table; they stand very well for the few hours required in any work of this kind. Just on the same principle flowers that do not last long out of doors may be the first cut when required in quantity; the borders are necessarily kept rather bare and one is anxious to preserve the borders as long as possible. It is difficult to imagine how such a supply could have been maintained in these bygone times when the flower garden was the first consideration. A series of herbaceous beds or borders from which one can cut a plentiful supply is indeed a great boon. Next to the fact of having such borders undoubtedly comes the desirability of so placing them that a thoroughly good succession may be secured, and we have oftentimes to give up the wish to plant any special favourites too largely when the thought comes that an excess of any one thing is only produced at the expense of, perhaps, more useful subjects. One of the earliest flowers of any size is probably the Tenby Daffodil, and one of the latest is *Aster grandiflorus*, the one early in February, given a favourable time, the other flowering at the beginning of December if the frost holds off. In connection with many new varieties of hardy plants it was lately noted that an immense improvement had been effected in the substance of potted, rendering them so much more acceptable in a cut state, and the same new varieties coming in, as they do, at different times are equally as serviceable in extending the season as a whole as for the extraction of beauty individually. Again, there are often special demands on the flower garden at some particular season of the year, and in all cases where the time is known measures have to be taken to meet the extra demand. For the harvest festival, for instance, Constance, Snowflake, Gloriosa, and Crawley Gem Dahlias, and white Comet Aster are in great request, and as such festivals happen, as a rule, towards the end of September, a batch of the Aster should be put out later than usual in order to get the flowers at this particular time. Nothing much in the way of white, to say nothing of scarlet, is available on the herbaceous border at that time, except the late summer-flowering Chrysanthemums. So far as the special requirements of places are concerned in the way of vases, it may be noted that a taste for taller vases seems to be growing, and that flowers to fill such vases have to be provided. Good bold flowers even if they are common, are much better than going dwarf formal stuff. Peonies, Irises and *Dolphinum* are early big

flowers. Just now I am depending largely on Foxgloves, Lilies and Sisyrinchiums, and later will come Galtonia and Montbretias, with perennial Sunflowers and Starworts.

HARDY PLANTS IN POTS.—Among the hardy plants potted up last autumn for use at different times and for different purposes, some, as Daffodils, Campanulas, Ernest Ladhami and Her Majesty Pinks, as well as Carnations in variety have either already flowered or are still out, and it is not too much to say that batches of plants of this character are a wonderful boon to gardeners where the demand both for flowers and plants is large, and yet the supply of glass is limited. True, they cannot when used in this way be pronounced perfectly hardy, but the stacking away in cold pits or improvised frames is really more a question of saving the pot than the plant, and they may be packed as tightly as possible, using a bit of Fern between, and 2 inches of coco fiber on the top layer, and a thin layer of peat below. Perhaps the best thing so far has been the Pinks above named, Carnation, Uriah Pike, the white form of Campanula persicifolia (single) and the variegated forms of *Funkia ovata*. The contrast in the latter case between the really bright variegation and the very handsome spikes of lilac-coloured flowers is very striking. *Frances ramosa*—one of the most graceful of pot plants all through the summer month—can be kept very well through the winter in a cold pit from which frost is just excluded, not but that it will stand a little frost, but the damp following after only a slight visitation is apt to cause a rotting at the collar. A batch of Montbretias is just throwing up the flower-spikes, and as they will be a bit earlier than those on outside borders, they are likely to be very useful.

A small collection of Phloxes in variety for pot work will furnish a bright and an enduring display, especially if the selection is made respectively from the early and late-flowering sections. Some of the Starworts are very well adapted for pots. I have used *A. acris*, *A. ptarmicoides*, *A. dumosus*, *A. linosyris* and *A. ericoides*, and there are doubtless others equally attractive. Amongst plants that will hold till April and single out plants that mix well with more bushy things are Gaillardia canescens and the new varieties of *Lobelia fulgens*. In all cases where hardy plants used in this way exhaust so rapidly as the Polyanthus, are of dense rooting habit, as Starworts, or moisture-loving, as Phloxes, will require liberal feeding. So soon as they begin to move in the spring, mild doses of manure water may be occasionally given, and it should be increased both in strength and frequency as the flowers are formed and developed. Cow manure is about the best and safest stimulant. I have included a few notes on such plants under the flower garden, because as a rule their preparation, whether by seed, cuttings, layers or division usually comes under the head of that department, and a start in such preparations will soon have to be made, so far, at any rate, as Pinks and Carnations are concerned.

FLOWER GARDEN WORK.—More rain fell this morning (June 25) in two hours than we have had since the beginning of spring, and it is needless to say that everything is wonderfully benefited thereby and looks bright and fresh. Where means for artificial watering are not to hand plants were looking sickly, especially those that had been in flower, but now, given a thorough picking of dead and dying blooms, they will have a new lease of life. This applies to such things as Sweet Peas, Tufted Pansies, Calendulas, Poppies, &c., and indeed to all those things whose flowers, however bright for the time being, are somewhat quickly transformed into seed-pods. Among the things that will at this time want a little help in the way of sticks on which they are growing against any wall, stump, or fence upon which they are required to run or partially hide are the white and rose forms of the Everlasting Pea and the Flame Tropaeolum. The varieties of Lathyrus emphatically to those plants that are not benefited by annual removal. I imagine many gardeners trying to establish them for the first

time have seen and evaded the magnificent clumps to be found occasionally in cottage gardens. Such clumps, often nearly covering a rustic porch or arbour, growing very freely and throwing their fine spikes well above the foliage, are a wonderfully handsome feature in any garden. Where herbaceous flowers are hard put three and four times a week, there are not many that die a natural death. Any dead blooms should, however, be removed as soon as possible, especially from such things as, for instance, Pinks and *Spiraea filipendula*, and, indeed, in the case of all plants where the foliage is good and forms of itself a bright and attractive carpet. Pyrethrums, also, should be cut over directly the flower is gone to encourage new growth, and if the time can be spared to give a mulch and a soaking of water, so much the better.

LILY CANDIDUM.—That there are two distinct diseases to which this favourite old Lily is subject is not, I think, sufficiently recognised. When a plant collapses entirely we look to the root for the cause, but when the foliage only is injured and stem and flowers remain intact, it is obviously a case of atmospheric influence. I say obviously because I cannot call to mind the case of any plant permanently injured at the root, tubers, or corms, as the case may be, the leaves and stem of which do not ultimately suffer. We always lose the foliage more or less, but a careful examination of the stem shows no trace of injury, whilst the flowers, averaging from twelve to eighteen per stem, are all in their turn fairly well developed. The flowers are not so large as one could wish, but diminution in the size of flower always follows injury to foliage.

Clarendon.

E. BURRELL.

NOTES FROM DORSETSHIRE.

FEW gardens offer a richer field of interest to the lover of hardy plants than Lord Ilchester's magnificent park at Melbury and the fine sub-tropical garden owned by the same nobleman at Abbotsbury, on the south coast of Dorsetshire. The former contains some truly magnificent specimens of trees of every description. During a recent visit I was much impressed with the stately proportions and perfect symmetry of a huge *Taxodium (Sequoia) sempervirens*, such as is seldom seen in this country; the trunk measures about 6 feet in diameter and the height of the tree cannot be short of 100 feet, and is the finest I have ever seen in this country. In the same park are fine specimens of *Tilia* trees, Abies Smithiana and *Cryptomeria japonica*. Of the last there is quite an avenue planted on one of the charming drives through the park. *Photinia serrulata* is represented by a specimen quite 20 feet high. *Ilex* *douglasii* covers a space of more than 10 feet through against one of the walls of the mansion, and is just now very bright with its rosy purple flowers. *Choico* creepers of all kinds are displayed everywhere, and another interesting feature is the arboretum, where rare and choice trees and shrubs flourish to perfection. The rarest kinds of plants are grown not at Melbury, but at Abbotsbury, on the south coast. Here many plants grow freely that are but seldom seen out-of-doors, or if found, present but rarely a robust and healthy appearance. Very interesting are the various kinds of *Eucalyptus*. The bluest foliage of all is shown by *Eucalyptus cordata* (from Van Diemen's Land). *Eucalyptus euonymoides* is a very distinct kind with green leaves undulated at the margin and borne on red stems. That charming shrub, *Philesia buxifolia*, generally a "miffy" plant, is blooming profusely and shows robust growth, covering quite a square yard of space. Another red-flowering plant in full bloom is *Fuchsia corymbifera*. Its long tubular flowers remind one of *Fuchsias* heliconias, but the sort of a deep reddish orange colour. *Magnolias* are well represented, but the only one I noticed in bloom (third week in June) is a fine specimen of *Magnolia glauca* spreading about 30 feet. Most deciduous *Magnolias* produce their flowers before the leaves, but in this variety the large, sweet-

scented white flowers appear simultaneously with the leaves. A fine specimen of *Oxydendron arboreum* about 18 feet high is just unfolding its white flowers, which are not unlike those of a Lily of the Valley in shape. Interesting also is the Fiddle-wood tree (*Cyathoxylon quadrangulare*), which has small, Myrtle-like leaves, and in autumn is usually covered with bright purple berries. The specimen at Abbotsbury is about 20 feet high. *Acacia dealbata* flourishes luxuriantly, and does also the charming yellow-flowered *Edwardia grandiflora*, represented by a specimen about 18 feet high. *Azara integrifolia*, *Berberis nepalensis* and *Escallonia robusta* are also of interest. Himalayan Rhododendrons are largely grown here, as are also Bamboos. The latter include splendid specimens of *Phyllostachys viridi-glaucescens*, *P. aurea*, *P. nigra*, *Arundinaria gracilis*, *A. narinira*, *A. nitida*, *Phyllostachys Quilioi* and many others.

F. W. MEYER.

Exeter.

ORCHIDS.

ORCHIDS AT WESTON-SUPER-MARE.

At Tyn-y-Coed, Weston-super-Mare, Mr. W. M. Appleton has for the last four years been working steadily with his Orchids until now the collection has probably no equal in the neighbourhood, and certainly no healthier or clearer lot of plants could anywhere be found. Each plant is a model of good culture, and there are thousands of them in great variety. In the first house I entered on a recent visit not many Orchids were grown, it being largely devoted to Ferns of various kinds, but in the cool, moist atmosphere so congenial to these, large specimens of *Coleogyne cristata* and *Cymbidium* in variety luxuriate. The cool house was the next visited, and on entering, a fine bank of the showy flowered section of *Masdevallias* at once arrested attention. *M. Harryana* in variety was the chief attraction, the flowers in nearly every case being large and brilliant, one especially, distinctly larger than any of the others, being rich crimson-lake in colour—a very fine and beautiful form. *M. Veitchii* was the most largely represented species, the plants in flower comprising several large healthy specimens and quite a number of smaller ones. The smaller-flowered section was represented by the quaint *M. Wagneriana* and one or two others, the only *Restrepia* in flower being *R. elegans*.

About 600 plants of *Odontoglossum crispum* are grown in this house, and many good forms appear among those in bloom. The plants are robust and healthy, and I noticed that Mr. Appleton does not pot his newly-imported plants so early as most growers, many having the new pseudo-bulbs nearly made up, yet still having no compost about them. The advantage of this is obvious, as the compost is placed about them just as they commence to root, and consequently is still in a new sweet condition, while had they been potted before, the compost must have become soured to a certain extent. Several plants of the distinct and pretty *O. coriifolium* were carrying large spikes of varying tints, one dark form producing dense racemes of flower being a distinct advance on the type. *O. maculatum* and *O. cirrhosum* are also satisfactory, a pretty rose tinted form of the latter deserving mention. *Lycaste aromatica* is one of the freest blooming of Orchids, and here it is very fine, the flowers being literally crowded on the plants. A good form of *L. Deppei*, with very broad sepals and petals and richly coloured lip, shows the beauty of this old and neglected species, and lasting as it does so long in good condition, this neglect is difficult to account for. *Epidendrum vitellinum* is finely flowered and shows up in strong contrast to the quieter

tinted Odontoglossums; the form here grown well deserves the appellation *majus*, this not being always applicable. Many other kinds were in bloom in this house, but space only admits of mentioning a fine lot of *Oncidium macranthum* and the even more beautiful *O. lamelligerum*. These, with their long, handsome panicles of flower, were very attractive, and, owing to the number of spikes coming on, will keep up a display for a considerable time. Another compact range of houses contains the Cattleyas, each structure being filled to repletion, yet so well arranged that no crowding is apparent. The number of plants in flower in the Cattleya house is not large, but they include, among others, some truly grand forms of *Laelia tenebrosa*. One had blossoms nearly or quite 9 inches across, but rather lacking in the deep colour so desirable. Others—and by no means a few—were nearly black on the lip, and though many good forms of this Orchid exist, it would, I think, be hard to beat those at Tyn-y-Coed. Cattleya Mendeli is in flower, also *C. Mossiae*, and the varieties of each are good, but do not call for special comment. A pretty sight in the intermediate house was a fine specimen of *Sobralia macrantha*, the reed-like stems attaining a height of 7 feet, and the plant was that day carrying over thirty flowers, the lip of each blossom being as large as the palm of the hand. A lovely pure white form was also in flower, the sepals and petals apparently of good substance, but, unfortunately, as fleeting as they are beautiful. The only shade of colour in this superb flower is a rich yellow blotch on the lip. *Galeandra Devoniensis*, *Palumbina candida* and some fine forms of *Odontoglossum citrosum roseum* were in flower, as were many others of considerable merit. *Dendrobiums* were getting past their best in the East India house, the best plants being *D. Dearei* and *D. suavisimum*, each of these being exceedingly well flowered. To mention all the Cypridiums in flower would take up far too much space, the best being found in *C. superbiens*, *C. Stonei*, *C. Hookera* with its lovely foliage, the distinct *C. Curtisii* and the remarkable *C. Chamberlainianum*. Two small houses are filled with hybrid Orchids in variety, the majority being Cypridiums and Cattleyas. They are in all stages of development, from the tiny green germs to the flowering plant, one and all by their appearance testifying to the care that is bestowed upon them. Mr. Appleton's success shows what may be done in this respect, and it is worthy of note that though he has been engaged in hybridising only a little over three years, he has several thousand plants separately potted, the first of which flowered less than two years from the date of sowing. At this rate many others are coming on, and in a short time no doubt a great variety of interesting hybrids will appear.

R.

sively produced on a spike, the old flower sets being quite close together for a long distance and having a peculiar appearance. Before one blossom decays the next is ready to take its place, thus keeping up a long display on one spike, and in addition to this the spines are freely produced. The habit is quite distinct from that of any other kind, the leaves being robust and healthy-looking, about 15 inches in length. The dorsal sepal is greenish yellow, with lines of purple and spots of the same colour. The petals are hairy, curled and twisted in a remarkable manner, the pouch light, spotted with rose.

Phalaenopsis grandiflora aurea.—A plant of this splendid variety is now in flower, the habit being exactly the same as in the typical form, but the blossoms have much yellow about the lip. The flower-spikes have a yellowish appearance on some plants, though this is absent on others. *P. grandiflora* is one of the very best of its genus and worthy of all care. The system I have before recommended in the pages of *THE GARDEN*, that of growing them in pots nearly filled with crocks instead of the usual cylinder or basket arrangement, is suitable to its requirements, the simplicity of repotting being not the least recommendation for this style of growing the plants. Careful balancing of the atmospheric conditions and due regard to the seasons of growth and rest are to be insisted on, for it is one of the freest of all to grow.—R.

Cypripedium Ainsworthii.—This was the first of the crosses effected between *C. longifolium* and *C. Sedenii*, and was raised by Mr. Mitchell, gardener to the late Dr. Ainsworth, of Manchester. The growth is very robust and healthy, and the spikes are large and produce many flowers of the distinct showy appearance characteristic of this set of hybrids. The dorsal sepal is very faintly tinged with rose on a white ground, the petals also white tipped with rose-pink. The pouch varies somewhat, but is usually some tint of rose, the open portion white, with many bright purple spots. It does well in an intermediate house if given plenty of water and a partly shaded position.

Promenaea citrina.—This is a pretty little Orchid when well grown, and I recently noted five fine plants of it in flower. The habit is dwarf and close, the peduncle being very small and producing from their base several spicas about 3 inches long, each bearing a single blossom. The sepals and petals are yellow, the lip yellow in front, the base having a large deep crimson spot and many smaller ones on the side lobes. It does well in a shady position in the cool house, and if suspended from the roof so much the better. The roots like a compost of peat fibre and Sphagnum, care being taken in mixing it that no part of it can become close or heavy, this being fatal to the well-being of the plant.—K.

Odontoglossum Pescatorei.—Among a lot of plants of this species in flower at Tyn-y-Coed I noticed one very distinct form. The flowers were large, and the lip had a distinct dark purple margin about an eighth of an inch in width, a disposition of colouring at once uncommon and pleasing. Others in bloom were of the usual large flowering and branching forms, and, beautiful as this species always is, it would be hard to name a more suitable plant for beginners in Orchid culture, for it thrives well in a cool house, is not much subject to insect attacks, and is very constant and good. It is a native of New Grenada, whence it has been often imported and consequently easy to obtain.—H.

Cattleya Bowringiana.—Judging by the appearance of a fine batch of this Cattleya in Mr. Appleton's collection at Weston, it delights in considerably more heat than the labiate section as a whole require. The plants are grown in a light corner of the East India house, and are making a remarkably fine growth. Grown here in the ordinary Cattleya temperature, it usually flowers in November, a season when its beautifully tinted blossoms are greatly appreciated, and

Cypripedium Schröderae.—This beautiful and free-flowering hybrid is now in bloom at Tyn-y-Coed, where it is well grown. In habit it resembles *C. Sedenii*, and, like it, produces several spicas upon a scape. The dorsal sepal is brownish green, paling to nearly white at the apex and lined with purple. The petals are long and drooping, pale green and white, with crimson veining. The pouch is large, rosy pink on the outside, white round the mouth and spotted with bright crimson. This was one of Mr. Seden's hybrids, raised by crossing *C. Sedenii* with *C. caudatum*, and first flowered in 1883.

Cypripedium Chamberlainianum.—This fine species seems always to be in flower, and though introduced as lately as 1892 may be seen in nearly every collection. The most remarkable point about it is the number of flowers suc-

would the warmer treatment cause it to flower earlier I should hesitate to recommend it. If, on the other hand, no difference in its season of flowering is caused by the extra heat, I should say it is worthy of trial, and it would be interesting to know later on the time at which these plants flower.—H. R.

Ocicidium luridum.—This species belongs to the bareless section of the genus and is a fairly common plant, I believe, in Jamaica and various parts of tropical America. The leaves are light green, occasionally spotted, and from the base of these the flower-spikes issue. These carry a large number of blossoms, the ground colour being a yellowish green spotted with crimson or brown, some varieties being considerably brighter than others. The plants are well set in the Cattleya house and like plenty of light, bright culture suit them well on this account. The compost should consist largely of Sphagnum, this material being congenial to the roots than peat. Plenty of water must be given while growing, and though less is required in winter, the roots must not be kept quite dry, as the leaves have not the power of retaining moisture to the same extent as the pseudo-bulbs.

Ocicidium longipes.—This pretty little Orchid is now in flower, the blossoms being freely produced from the last matured pseudo-bulbs. Each flower is about 1½ inches across, the sepals and petals brownish, with a slight recurring yellow margin; the lip yellow with a dark purple blotch in the centre. It is not a difficult plant to manage if a little care is taken with it, but, like all small growers, it is easily checked by fluctuations of temperature or chilling draughts, especially in early spring. It does well in the coolest part of the Cattleya house or may be grown with the warmer section of Odontoglossums. A rather confined rooting space and a little closer compost than the larger growing members of the genus require suit it well. It is a native of Brazil.

Masdevallia marginella.—For this rare and beautiful little plant, Mr. R. J. Measures, of Camberwell, was awarded a botanical certificate by the Royal Horticultural Society. It only grows about 4 inches high, the leaves reminding one somewhat of a miniature *M. Harryana*. The flowers are apparently freely produced on the slender, wiry stalks, and the sepals are of the purest white at the base, afterwards elongated into thin, roundish tails, these being green and orange in colour. Like all in this section, it is very quaint and almost grotesque in outline, the form so attractive to anyone who is interested in this class of plant.

Phaius Humboldti.—Many Orchid growers fail to do much with this plant, its culture as yet not being thoroughly understood. Mr. H. Chapman grows it well in a cool, airy corner of an intermediate house, so possibly it may turn out that we have been giving this fine plant too much heat. The plants at Camberwell are making good growths and a great many flower spikes are coming rapidly on, though at the time of my visit no blooms were open. It is an Orchid that varies considerably in colour, the sepals and petals being sometimes nearly white, others being flushed with a deep rose tint, but all the forms are very beautiful and worth all care to get them in good order.—H. R.

Dendrobium infundibulum.—Some fine flowers of this pretty *lindstroemia* come from "F. C.", and their freshness and good substance show they are the produce of well-grown plants. The nigro-bisecta forms of the genus to which this species belongs are not very constant in their time of flowering, the blossoms as a rule being produced at the apex of growth, and consequently depending upon the time they start. The species in question does not require, nor in fact will it thrive in strong heat, but in a house such as suite the Mexican *Laelia* species or at the cool end of the Cattleya house it makes splendid shoots a couple of feet and upwards in length, such growths taking sure to flower well. The plants,

which may be grown in small pans, are best kept rather pinched for root-room, and like a thin layer of compost only. This may consist of the fibrous part of peat and Sphagnum Moss in about equal proportions, plenty of small crocks and charcoal being added.

Cattleya Aclandiae.—A large healthy plant of this pretty Cattleya is in flower in the Cambridge Lodge collection. It is grown in an intermediate house, the roots being confined to a large flat raft. The flowers are brighter in colour than in some varieties, the sepals and petals chocolate, with irregular greenish yellow markings. The lip large and spreading, rose purple, not enfolding the column, as is usual in this genus. It is a distinct and pretty Orchid that does well in cultivation, the roots being easily injured by excess of moisture, especially in winter, yet bare root treatment is too poor to get the best results. It is a native of Brazil, and was introduced in 1829.

Trichocentrum tortilla.—This is a free-flowering and interesting plant producing large blossoms that remain in good condition for several weeks. The sepals and petals are narrow and twisted, the colour brown, paling to yellow at the margins, the lip white with many spots of bright crimson. It does well in pots or baskets in the Cattleya house and should be given thorough drainage and a rough open compost, the roots being vigorous and requiring a large quantity of water while the plants are in active growth. *T. tortilla* is a native of Mexico and an old plant in cultivation, having been introduced as far back as 1838.

MILTONIA VENILLARIA.

This ranks among our finest Orchids, and when grown into specimen size and well flowered it is not easily surpassed. It possesses the good qualities of an Orchid of being a free-growing and free-rooting plant, and it ought to be seen in well-developed specimens often than it is at present. The season of flowering also ought to command it, those who have to supply cut blooms of high quality, as it comes in when the demand for good flowers is greatest, and the spikes of bloom are well adapted for giving a free and elegant finish to a vase of choice dowers. Even when not in bloom it is distinct in appearance from other Orchids, with its pale green and purple-tinted foliage.

In commencing the cultivation of this Orchid, healthy young plants with one or two good leads should be selected, as with good treatment they soon grow into large plants. A plant of this description in a 3-inch pot should be moved into a 4½-inch pot when growth commences. Clean pots and crocks and good drainage are necessary, and the compost should be nearly free from all earthy matter to ensure thorough porosity, as the roots are very sensitive to a stagnant condition surrounding them. A compost prepared in the following manner will keep the roots in a healthy condition: Select some light brown-coloured peat full of fibre, and thoroughly dry it over a furnace or in the sun. Break this up roughly, and remove all coarse roots and any black-looking pieces out of the mass. The whole should then be passed through an inch-mesh sieve, and afterwards the dusty portion must be removed with a fine sand sieve. After the latter operation not much but fibre will remain, to two parts of this add one part crushed Sphagnum Moss. Before potting, the Moss and peat must be moistened and then well blended, and a sprinkling of silver sand may be added with advantage. The pot must be carefully drained to within a couple of inches of the rim and a thin layer of Moss placed over the drainage, filling up around the roots with the compost and pressing it as firmly as possible, so that the potting material cannot hold an excess of moisture at any time. The whole depth of compost over the drainage should not exceed a couple of inches, as there is much less risk of doing injury to the roots by over-watering in a shallow than in a too deep mass of material. As the plants increase in size

and larger pots are needed, the drainage should be placed in a convex form under the centre of each plant so as to avoid the accumulation of sour matter in the centre of the balls, and the potting material should be used a little rougher than for small plants. As the normal season of growth with this plant is during the winter months, great care should be taken in watering the plants at that season, not only as regards the roots, but to avoid any water falling into the centre of the leaves. A nice degree of moisture at the roots should be aimed at, never excessively wet for any length of time and never allowed to become quite dry. The plants should be elevated by within 1½ inches of the glass during the dull season of growth, and a moderate degree of moisture maintained in the house, but drip must be carefully guarded against. The temperature during winter should range from 50° to 55°, and the nearest approach to these conditions will be found in the cool end of a Cattleya house, or the plants may be placed through the house on light stands above the other occupants. Wherever placed the plants should always be close under the eye of the grower, so that their condition may be readily seen and attended to.

This plant is worthy of a small house being devoted specially to it during winter, and there are a few other Orchids that would find just the right conditions to suit them if associated with it. Among these are *Odontoglossum citrosum*, *O. grande*, *O. Phalaenopsis*, *O. nevius majus*, *Cypripedium carinatum* and others that need a temperature intermediate between the Cattleya and cool house. When the sun gains power in the spring, a light movable shading will be needed, but it need not be so heavy as over the cool house, as this plant will stand a considerable degree of natural heat without injury provided the house is pretty freely ventilated at such times. The more light and ventilation we can give, the firmer will be the texture of the foliage, and consequently less liable to the attack of insect pests. Trichomes are often troublesome and not easily got rid of. The method I recommend for dealing with this pest is to have a large camel's-hair brush with the hairs nearly 2 inches in length. This can be run through the sheaths of the leaves very quickly without the least injury to the plants and soon dislodges the insects. A weak solution of insecticide can also be passed through the leaves by the aid of the brush with less danger to the plants than the usual method of dipping them.

I have seen a good deal of injury happen to both the growth and flower spikes from careless dipping. When the growths are nearly comouflaged and the flowering stage is rapidly approaching, the pots should be full of healthy roots. These are of a wiry nature and multiply rapidly amongst the drainage of the pots. When the plants have reached this stage the pots should be dipped in shallow pans of water—deep enough to cover the depth of the drainage—for a few minutes occasionally to thoroughly moisten the crocks and roots attached to them, as no amount of surface watering will do it. This will increase the root action and give an impetus to the final growth of the plants and the development of fine spikes of bloom. When the plants attain specimen size they should not be allowed to carry their flowers too long, as it exhausts them and renders them liable to die off suddenly. A short rest in a cool temperature after flowering will do them good, but dryness at the root must be carefully guarded against. When growth commences again, any specimens that are getting bare in the centre should be carefully separated and repotted, retaining 1 or 2 strong leads with each plant, shading them heavily, and watering carefully until they are established, when they should be placed under the same treatment as the established plants. When well grown, few Orchids increase in size more rapidly than this, as a well-rooted plant sends out to throw double breaks from the bulbs formed the previous season. It may also be retarded to give a supply of flowers over several months during late spring and summer.

J. R.

CAWDOR CASTLE, NAIRN.

THE charms of the flower garden are clearly shown in the illustration. The vegetation is not of the small-growing kind, but trees, shrubs and bushes, the absence of which with their varied light and shade from most gardens gives us the hard and dismal effect so generally seen where the whole garden is set out flat as a chessboard. Here, on the contrary, we have some play of light, and form, and shade everywhere. The beds are simple, yet we see rightly much less of them than of the flowers, and the pattern is not greater than the garden, as it unhappily so generally is.

Mr. Geo. Fowler Jones, Quarrybank, Malton,

Cawdor. In the early part of the sixteenth century the subsequent additions appear to have been built, from the date 1510 cut in the stone chimney-piece of one of the rooms, along with other grotesque carvings. On this is a fox smoking a pipe similar to what is still in use in the Highlands and neighbourhood and commonly called the cutty pipe.

There is a tradition, although of doubtful authenticity, but still believed by the country folk, that one of the upper rooms of the tower is the room where King Duncan was murdered, which incident Shakespeare has immortalised. There is also a room in a roof adjoining called "Lovat's hole," where the notorious Lovat is said to have been concealed for a time after the battle of Culloden, and escaped by being let down in a

and, to the best of my recollection, very much the same as it was some sixty years back.

ROSE GARDEN.

MOSS ROSES.

THE very name of Moss Rose recalls to many of us scenes in our childhood's days when these Roses and the Maiden's Blush occupied a conspicuous place in nearly every garden in the land. Naturally the wealth of beautiful varieties of the Teas, Hybrid Teas and Hybrid Perpetuals, &c., has been the cause of the deposition of many old favourites. The question is



Cawdor Castle, Nairn, N.B. Engraved for THE GARDEN from a photograph sent by Mr. G. Fowler Jones, Quarrybank, Malton, Yorks.

Yorks, who sent us the photo from which the engraving was prepared, sends us the following notes about this old castle:—

Few places are more interesting than Cawdor Castle, with its traditions and surroundings, as well as being a well-preserved specimen of a feudal keep with domestic additions of later date. The Thane who founded the castle is said to have consulted a seer as to where it should be built. His counsel was that he should load an ass with the iron chest full of the gold he had amassed to erect his castle with and build wherever the ass should first halt. The ass stopped at a Hawthorn tree on the bank of the Burn. The castle was built round this tree, the mutilated stem of which still exists in the donjon with the old iron chest lying beside it. The keep which Thane William built was a grim square tower three storeys in height above the donjon, surrounded with walls, moat, iron portcullie, and furnished with turrets, battlements with other defensive armaments, for which the Thane received letters from King James II. in the year 1454, granting him licence to build the Castle of

basket over the outer roof into the Burn. The old gateway entrance to courtyard with portcullis and drawbridge still exists and is used as the only entrance. The more recent buildings of domestic origin are as follows:—The engraving, for portions of two sides of the castle, shows the west, which is otherwise enclosed by a massive stone wall. Added to the charms of this quaint old feudal residence are the picturesque situation and surroundings, the splendid timber in the immediate grounds and the beautifully laid out drives and walks in the extensive woods through which the Burn meanders and rushes past the castle walls in its rapid descent to the river Nairn. The garden is a large square divided into four by grass walks, the chief one east and west being wide, with flower borders each side, and along the west side of castle filled with Roses and flowering shrubs and plants that are showy in the autumn; the other portions are filled up with fruit trees and vegetables, the general appearance being that of a well-stocked Scotch garden, without any or much attention to display of bedding plants or arrangement of colour in them,

often put to me, "Do you grow the Moss Roses now? I very seldom see any;" and I am forced to admit that their cultivation has been sadly neglected. This charming class of Rose appears to have escaped the notice of hybridists, but if they try to improve the flower at the expense of its great attraction—the Moss-like growths enveloping it—then I would say, "Leave well alone." Doubtless, a rich crimson and a yellow variety with the Moss-like growth of the common pink would be hailed with delight by all lovers of the queen of flowers.

The culture of Moss Roses is not at all difficult. If dwarfs or bushes are desired, I would recommend them to be either on own roots or budded on seedling Briar, but I think they appeal to the best advantage when budded upon short standards with stems about 2 feet high. The Moss Rose delights in a rich fibrous loam with plenty of well-decayed manure added, and the plants should be transplanted every three or four years—as, indeed, all Roses should be

to maintain the vigour of growth so essential to their success, and to ward off the mulkew, a fungus to which they are very much addicted. If grown in a border and a portion of them transplanted each year, we should thus prolong the flowering period very considerably.

At pruning time the knife must be used rather severely, excepting in the case of the very vigorous kinds, and the growth should be well thinned in May to admit air freely to the centre of the plant. Ample room should be afforded when planting, as they speedily develop into huge bushes and trees. A good dressing of well-decayed manure applied in autumn and forked in in spring will be of great assistance in building up the buds. Many of us find in the winter months that we have an accumulation of liquid manure in the tanks placed near the manure heap. If this liquid is poured on to the Rose beds, giving the Moss Roses a good share, we shall have no cause to regret doing so. Some varieties, such as the Common Pink, Crested, and Crimson Globe, make grand standards to plant on lawns, and these will quickly make large heads and be a considerable attraction during the month of June. Pyramids or pillars could also be produced by planting alongside walks some of the very vigorous kinds, such as Comtesse de Murinais, Blanche Moreau, and the varieties named above. If trained in pyramidal form very little pruning, if any, will be required until the plants are five or six years old, but if the growths get too crowded these must of course be well thinned out.

Hedges formed of the common Moss have a beautiful effect when growing freely, and this variety could also be used to advantage in the wild garden. The plants should be on own roots and allowed to ramble at will. Some varieties are reputed to be perpetual, but this appellation is rather misleading, for to be perpetual we naturally should expect to see flowers produced in autumn.

I append a list of a dozen varieties which I consider worth cultivating. There are many other varieties, but the list given below is representative of all the colours at present obtained. I have placed them in their order of merit, so that if only one can be grown it should be the first named, and so on.

Crimson Pink.—Buds beautifully mossed. Too well known to need description.

BLANCHE MOREAU.—Fine paper-white, the Moss like growth being of a peculiar dark green colour, forming a beautiful contrast to the white flowers.

LITTLE GEM has flowers of a deep pink colour and very small; the tiny buds are freely produced and are very mossy. It is a splendid variety for pot culture.

CRESTED.—A clear rose colour, the flowers being enveloped in a peculiar Parsley-like growth of a very striking appearance.

WHITE BATH.—An old favourite, and in some respects the best white, but not quite so vigorous as Blanche Moreau.

CELINA.—Rich crimson, well mossed, and produced in panicles of eight or nine blooms each.

COMTESSE DE MURINAIS.—White, shaded pink, very showy and free, each shoot crowned with panicles of blooms eight or nine in number, well thrown out from the stem.

SALET.—Blush-pink, with a deep rose centre, large and few.

MME. WM. PAUL.—Bright rose, free blooming, and the most perpetual of any.

CRIMSON GLOBE.—Quite a new departure in Moss Roses, the flower being of almost exhibition size, of a rich crimson colour, and buds well mossed.

LANEL.—Deep rose, almost crimson, and fairly well mossed.

LOUise DES MOUSSEUSES.—Beautiful blush-pink, large and full.

MME. EDOUARD ORY.—Rose carmine, large and well mossed.

PHILONELE.

Rose Mme. la Baronne Berge (Tea).—This is a recent variety of great merit. The colour is a beautiful ivory-white in centre of flower, the outer petals being marbled and edged with a lovely rose tint. One great charm of this Rose is the almost perfect shape of the flower, the centre having the appearance of having been moulded in wax, so perfect is it.

Rose Mme. Eugène Ressal (China).—All lovers of Roses will welcome the above variety, and it comes to us with a good testimonial, it being a seedling from that lovely and popular variety, Mme. Laurette de Messimy. Mme. E. Ressal was sent out in 1894 by P. Guillot. It is of a deeper shade of pink than its parent, in fact, it is almost red, and the base of the petals has a beautiful coppery hue that renders it very attractive. It cannot fail to be popular.

Rose Marquise Lita (H.T.).—This will gladden the hearts of all exhibitors, and I expect to see it very finely shown at the Crystal Palace on July 4. The colour is a vivid vermilion in centre, the outer petals being of a bright rose cerise and pointed after the manner of La France. It is exceedingly free-blooming and the growth and habit good; indeed, much stronger than in La Fraicheur, a variety it resembles in some respects.—P.

Rose Souvenir de Mme. Antoine Levet (Ten).—This Rose, approaching Wm. Allen Richardson in colour, is of dwarf sturdy habit, similar to Souvenir d'Elise Vardon, the expanded flower larger and of a better shape than in W. A. Richardson with a good substantial petal. At present I fear it is very scarce, as one seldom meets with it at exhibitions, but it cannot fail to become popular, and it deserves any extra care we are willing to bestow upon it. What a grand variety it would be for massing, and a bed of it would have a fine effect.—E.

Rose Souvenir de Mme. Eugène Verdier (H.T.).—More than two thirds of the Roses of the last few years are what might be termed light varieties, but many of them compel our admiration by some special trait in their character. Take, for instance, the variety under notice. The colour is white, suffused with lemon, and the exquisite shape of the flower is not the least attraction of this variety, the outer petals having the characteristic pointing of Marchion Niel and La France. It is what exhibitors would call a tight Rose, and doubtless will soon be seen in all winning stands. It is exceedingly free blooming and altogether a very fine variety.

Rose Clara Watson (Tea).—I could never understand how it was that the National Rose Society refused the gold medal to this beautiful variety raised by the late Mr. D. Bennett. The vigorous and foliage of this variety are almost sufficient to recommend it, to say nothing of the flower. In its growth it resembles somewhat the Hon. Edith Gifford, but the flower is decidedly distinct. The colour in the centre is of a beautiful deep rose, peach hue, and this colour appears to faintly suffuse the outer petals, which are of a light fawn shade. The flower has about it that peculiar transparency seen in one named G. Nabonnand, but the petals are more evenly placed and it is quite double. It is a worthy companion to the grand varieties which Mr. Bennett raised.—P.

Rose Crimson Rambler.—Plants of this variety budded upon standards last year and which made one or two growths the same season are blooming profusely this year from last year's wood, although this was cut down to within two eyes of the base. This splendid novelty adapts itself to almost any method of cultivation, and I have seen plants grafted the previous season in 5-inch pots blooming splendidly within a foot of top of pot, simply by cutting down the hard wood to within two or three eyes from base of shoot.

Anyone having a quantity of table decoration to do would find such plants extremely useful. The flowers when fully expanded have the unique quality in a Rose of lasting a long time before dropping. I lately saw a plant in a large pot with as many as thirty heads fully out at one time, and the effect can be readily imagined. This plant had been thus in bloom for one week, and there did not appear to be any signs of failing beauty, but to all appearance it would last another week.—P.

GARDEN FLORA.

PLATE 1073.

POPPY ANEMONES.

(WITH A COLOURED PLATE, *)

THIS is the popular name by which we all know and recognise the Garland Windflower (*Anemone coronaria*). It is an easily grown plant, a plant that will flourish in all sorts of soils, and it is more than likely that this every-day recommendation is just calculated to do a certain amount of harm. It too often happens that those plants that can be well grown in every garden and in all soils are just the plants that many will grow, and rather purchase with some such object in view, because of their requiring little or no attention. The result of all this is, unfortunately, and indeed too frequently, that the tubers of these plants are put into a hole a little larger or more deeply stirred than a 5-inch flower-pot. The reward of such treatment is frequently seen in yellow leaves, that should be fresh and vigorous, and puny, undersized flowers. It is a great recommendation to any flower that it will "grow in any ordinary soil," but the plant that will answer to such treatment can always be grown to greater perfection with more liberal treatment, and, further, will pay for all the extra labour and care bestowed. It is just so with these Anemones, for in spite of the fact that they are among the easiest things to grow, there are few plants that respond to, and produce better results from, good culture. It is as spring flowers that they are best known in gardens generally, though the limit of spring by no means exhausts the period over which they may be had in bloom. Indeed, by planting the tubers in successive batches, flowers may be had from March to the end of October, or even later than this, provided no severe frosts are experienced.

The coloured plate with the present issue of THE GARDEN faithfully represents a charming variety of these plants, particularly of those having single flowers. The flowers in the plate are not over-drawn, rather the reverse in point of size, while the colours to be found are as bright and varied as it is possible for them to be. Some of the scarlet and vermilion shades are extremely vivid in their colouring. The blue and lavender as well as the mauve shades are also numerous, and in their way equally charming. There is also a host of double kinds exceedingly rich and varied in their colours, many of the named varieties, both single and double, being in every way excellent. The chief advantage of these named kinds, apart from the superior flowers, is that it enables the planter to render the garden more beautiful by massing any given colour in a suitable position and in conjunction with other things, employing them in a harmonious manner. So far as

* DRAWN FOR THE GARDEN BY Ella Williamson. Lithographed and printed by Guillaume Severeyns.



POSITION

is concerned, these Anemones may be planted in a great variety of situations, endeavouring if possible to give them a slight shade. This is more needful perhaps where the finest flowers are required, and is perhaps more especially needed when planting the successive batches to bloom during the hot summer months. Those intended for spring flowering will be benefited if protection from the most searching and cutting winds can be given them. For example, in many private gardens such things may receive just the kind of protection they need if planted at the foot of a wall or in some equally sheltered place, and where such things are planted in October, and particularly if the tubers have been cultivated in the south of France, the autumn growth will be rapid and not unfrequently become disfigured by the frosts that ensue. In a very charming way do these Anemones mingle with Narcissi in the beds in spring, the abundance of the beautiful foliage of the former making a most delightful setting for the Narcissi, while succeeding them in the time of their flowering. And very charming, too, are these flowers in moist and rich meadows, and bright and attractive alike in shrubbery and woodland. In all these places they may be planted with a free hand; and if in the latter places their flowers are smaller than those grown in more cultivated quarters, they will be none the less valued in the end. A few remarks may be necessary with regard to their general

CULTURE.

Whether planted in beds alone or in borders, the soil should be deeply dug and fairly well enriched with rotten manure. In spite of the fact that the tuberous roots of these plants are not large, they quickly emit a large number of fibres that in good and deep soil find their way to a considerable depth—a somewhat sure sign that their requirements will not be wholly satisfied in soils that are poor or shallow, or, what is almost as bad, one that is not prepared for their reception. Generally speaking, all the tuberous-rooting Anemones prefer a light loamy soil, and one that is well drained also. The most unsuitable soils in which these can be planted are those of a clayey nature, and where these are retentive the tubers frequently perish in the winter season. In all badly drained soils deterioration is likewise noticeable after the first season, and indeed it is wise to allow them to remain. If the tubers are lifted as soon as the foliage decays there may be the possibility of their flowering a second season, which in the lighter, well-drained soils is of frequent occurrence. By deep digging and using freely river sand and leaf soil, together with burnt earth and the like, the heavier soils may be transformed into quite a congenial home for these gay and beautiful flowers. The best flowers, it should be noted, are the result of autumn planting, but very fine flowers also are forthcoming when the tubers are planted quite early in the year, say in February or March. But the date of planting is one of those things which every gardener must decide for himself according as his peculiar requirements will dictate. With the soil well prepared the tubers may be planted over a very long period, far beyond the usual recognised limits of the florists of old, who in many instances gave preference to the autumn for planting. Indeed, it is at this season that they root so abundantly, and doubtless also, in due course, yield proportionately of their flowers. Notwithstanding all this, it is just possible to obtain very good flowers indeed by planting the dry tubers at midsummer. At this

time the soil is warm and the tubers quickly plump up and grow, the majority of them flowering during September and October, a season when their flowers are as useful an welcome as in spring-time. The fact that these Anemones may be thus turned to account is not yet sufficiently known among gardeners and the managers of large establishments, who at all times have to provide large supplies of flowers. The same remark applies equally to the *Anemone fulgens*; indeed, the flowers of both kinds by successive planting may be had over a very lengthened period—in short, from February to the end of October. These plants at all times enjoy a fairly good and rich soil, and by planting rather thinly at 3 inches deep a good display is ensured. So far I have said nothing about

RAISING FROM SEED,

which is perhaps not only a simple, but also an interesting way of growing these free-flowering plants. In all instances the seed should be sown in the open ground in well-enriched soil of good depth. Select a somewhat sheltered position, such as a shady border, and sow the seed thinly either in drills or broadcast. Drills are perhaps best, for the simple reason these are more easily freed from weeds, and an opportunity is also afforded for frequent surface stirring, which is of great help to the seedlings. The seeds may be sown at any time from March to the end of June. Later than this is scarcely advisable, inasmuch as the young plants would scarcely have time to fully develop before frosts arrive. Should the soil be dry, a good soaking may be given after the drills are drawn. Draw the drills at 8 inches apart, selecting a calm day for the sowing, and should the seeds be at all lumpy, take a handful of sharp sand or fine earth and, mixing with the seed, rub them through the hand till separated, afterwards sowing soil and seed together in the drills. Prior to sowing, the bed should be moderately firm, and when the seed is in, cover very lightly with fine soil and make firm with the back of a spade. March sown seed I would sow in a rather shady spot, but late June-planted seed should be sown in a warm sunny spot, because of the limit to growth before the arrival of frost. Take care at all times to shade the seed bed from all sun till the seed is well up, and likewise to keep the surface moist. When the young plants are matured in autumn, they may be transplanted to other positions as required.

E. J.

A garden in Maine.—Perhaps it would interest you to hear what our place is like. It is a rocky piece of 4 acres, thickly wooded with Spruce, Fir, and Pine, with a sprinkling of Maple, Oak, and Ash, and Birch to bring out the high lights. The land slopes gently to a rocky seacoast, where the waves make an incessant clatter on the pebbly beach. The house stands in the middle, a simple wooden affair of logs and shingles, but with good big windows to let in light and air. Some fine Spruce trees stand near the house, and a little lawn gives the house a pedestal and blends with the wild shrubs which we have transplanted from the woods. Wild Roses are everywhere, and climbing Roses tied to old-fashioned fan-shaped trellises on the walls. In the ground they and the *Clematis* and *Virginia Creeper* struggle with many a tree. We have naturalised Lilies many places, and have great masses of *Asters*, *Royal Purple* and *Golden Rod* in the autumn, while in the spring the carpet of what they call in this part of the world *Bunchberries*, the dwarf *Cornel*, is white with its flowers, and at midsummer gorges in scarlet berries. The shrubs, except those in the immediate neighbourhood, are from the wood.—*Viburnums*, *Dogwoods*, *Elder*, the

Creeping Yew, a most beautiful plant, with its deep green foliage and crimson berries. To go on with the list would be to lengthen it out a page or so in telling over the names of our wood plants. Solomon's Seal, Irises, Ferns, each have their corner and each their beauty in season. Flower gardens we have none, but our flowers are scattered about wherever the soil is deep enough and the spot sheltered from high winds, which destroy our plants unless we take great care.—E. J., Bar Harbour, Maine.

ORCHARD AND FRUIT GARDEN.

STRAWBERRY RUNNERS.

Those who require a large number of Strawberry runners either for forcing or for furnishing open-air beds will this season need to look well to their young stock, as many beds, even of yearling plants on light shallow soils, suffered to a greater extent from the drought of early spring than was at first thought. Even although actual flagging did not take place, the plants received a check, this being proved by many of the fruit now turning brown and refusing to swell. Red spider will in consequence be more troublesome than usual, particularly on the less robust-growing varieties. Having annually to fight more or less of a battle with this pest, I sometimes syringe my layered runners on the beds before they are severed from the parents, as if left until ready for that they would present a pitiful appearance. In the best of seasons when growth is early and vigorous and the spider attack reduced to a minimum, I make it a rule to lay all the young plants on their sides as soon as detached and syringe them thoroughly well with strong sulphur water, so strong, indeed, that a rather thick sediment is left on the foliage when dry. After the plants have lain for a few hours they are turned on the reverse side and again syringed. I find this completely destroys the spider, and no after attack need be feared. It not unfrequently happens that the planting of new beds cannot be done until certain crops are cleared off the ground; consequently the young plants suffer from becoming root-bound. To avoid this evil I use pots quite 3½ inches in diameter and of good depth, these holding sufficient compost to nourish the roots until transplanting is done. Giving the plants weak doses of liquid manure also aids them much. When there is any fear of delay in planting, it is better to detach the plants before the pots are quite full of roots, and to stand them behind a north wall not too thickly together, in which position rooting will be slower. Few gardeners now-a-days take runners except from yearling plants, and I believe that where ground is plentiful it would pay to plant a breadth of young plants each autumn for producing runners the next season, picking the bloom trusses off directly they appear, so that the whole of the strength might be appropriated by the parent plant and runners, taking a crop the second year. Good runners can, however, be secured from year-bearing beds, but the greatest drawback is that many of them are ready for layering long before the whole of the crop is gathered, and difficulty is experienced in getting the pots amongst the plants without damaging the fruit. Watering also, if not very carefully performed, is likely to rot the fruit. Where an unlimited stock of runners is not required, I certainly am an advocate for trimming off all runners except those wanted for layering, this helping the layers left and also improving the crop of fruit next season. Although short of ground and unable to devote a special site to stock

plants, I annually plant as many as possible in front of espalier trees by the margins of walks, where they are easily layered and attended to. If a portion of the old soil is removed and a cube of new loam put in and made firm, it will support the plant for twelve months. Layering numbers into the fruits—sets may be done from such a position, and I believe this old system has its advantages. J. CRAWFORD.

MELONS.

So far as ripening of the fruit is concerned, we have had a splendid season with plenty of sun, and with good culture the flavour should be excellent. At the same time it is necessary to keep the leaves free of insect pests till the fruits are matured, as if these are injured flavour is impaired and valuable time lost. The varieties of Melons are very numerous. Many growers have their own seedlings, and if good they are wise to keep and grow them, as Melons when grown for years with other kinds deteriorate in quality, as few fruits are crossed more quickly than the Melon. Many who have been in tropical climates dislike our small home-grown Melons. The small fruits when well grown are delicious compared with the large Continental ones. I am aware many fail to get first-class flavour at times, but this also affects other fruits besides Melons, and seasons are not always favourable. Another point deserving attention is rapid culture. I have for some years noticed the best flavour is usually obtained from fruits grown quickly, the plants being in a condition to give a second crop. Though I am not an advocate for succession crops on the same plants, it is an excellent plan where only a small or limited space can be given. More care is required to feed and build up the second crop, and as I have no lack of small pits during the summer, I find it best to sow about every three weeks and rely upon young plants, as often the pit just cleared of a crop of fruit may be required for another purpose.

I have raised a lot of seedlings from various crosses, and some have been much inferior to the parents. I have found it impossible to get flavour when using two kinds noted for flavour, as they have invariably been difficult to fix, not having enough strength. The one illustrated, 'Syon House,' was raised a few years ago, and it is still a favourite here. It may be termed a medium grower, and differs from many in having a certain amount of both green and scarlet in its flesh. Some excellent Melons have of late years been brought out by growers in different parts of the country, and as recently as June 9 two received first-class certificates and another an award of merit. If this rate of progress continues for the next few months, there will be no lack of new Melons. Many of the older kinds still retain leading places, and show by their excellence they were worthy of the praise bestowed on them, as when grown true they are difficult to beat. Many Melons of the present day may be termed free growers. There are fewer long-jointed kinds and less difficulty in setting, as when three pits of fruit may be obtained in the same pit with reheat, there is, it will be seen, little difficulty in setting.

Melons in the olden days were much grown in frames, manure being the heating agency, and many good crops were grown. I have cut Eastnor Castle, an excellent green variety, in the middle of May with only manure as the heating agency. Of course, such methods required a deal of labour in making up a good body of manure, removal of frames and covering of glass at night. Frame culture need not be despised, as

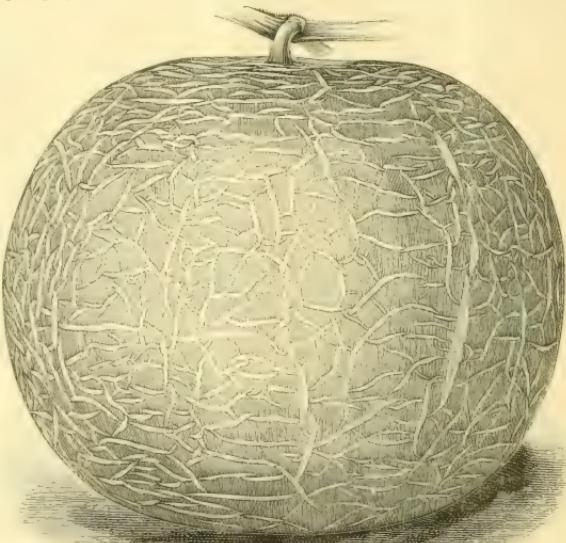
at this date many frames that have been sheltered bedding and other plants would grow good Melons without manure if due attention were paid to culture, as if a couple of bushels of good loam are placed to a plant within 18 inches of the glass, attention paid to closing early and regulating growth, good results may be obtained. Another system—that of growing in cordon fashion to get early crops—is deserving of attention, as the plants, having less top growth, can be grown with less soil if well fed. It often happens that too much root-run is allowed. If the root's can be restricted to a certain space, the grower has more command of the plants and can get a better finish in the fruit. When the fruits are finishing it often happens that the plants are given too much water after the colouring has begun, and though it is not well to hurry the ripening by drying off too quickly, many

manure. I do not advise the poor, barren soil often used in former days for Melons. By using fairly good soil there is less need of top-dressing. A holding soil is advisable.

G. WYTHES.

ALPINE AND HAUTBOIS STRAWBERRIES.

Many persons grow the above for their peculiar flavour. The alpines are grown more largely on the continent than in this country and do not get the same culture as our larger fruit; indeed, in many houses a bowl or small dish of these fruits is placed on the table from June to October, and I do not know of a nicer dish. The value of these small varieties is their long cropping season, addition to their fine flavour. They are not fastidious as to soil, and are readily raised from seed. The plants fruit in a very young state and continue bearing well into the autumn. There are some



Melon Syon House. From a photograph sent by Mr. G. Wythes,
Syon House Gardens, Brentford

Melons have their flavour impaired by excess of moisture. Much better Melons are obtained when the plants are allowed to ripen the fruit before it is detached from the plants, and even then it is well to finish the fruit in a warm, dry temperature if flavour is desired. Liquid manure given too late will soon affect flavour, and in my opinion it should never be given after the fruit has finished netting. I admit netting can be hastened by excessive heat, by drought, and also by neglect, but in such cases one must not expect good flavour. To get flavour, much may be done by a temporary trellis, raising the fruit close to the glass and removing superabundant foliage to admit light and air. The old method of top-dressing or soiling Melons at certain periods of their growth is less practised, as if a fair quantity of soil is given at the start it is not necessary, as much may be done with fertilisers and liquid

dozen varieties, and I think that by careful selection the fruits could be much improved in size without loss of the exquisite flavour. The Large Red, which is known on the continent as Rouge Amelioré, is a fine variety, and one of the best for dessert. This was grown last year in quantity at Gunnersbury House and certified by the Royal Horticultural Society. The fruits each measure 2 inches long and are of a bright red colour. The smaller variety, or what is called Belle de Meaux, is a delicious fruit, and in shape and colour resembles the Hautbois. Another alpine is the White, now called Improved White, a large fruit and freely borne. I prefer the Red, but much like the White. There are several other varieties, such as the old red Comtesse Fretakoff, also red La Genevieve and some others with very small fruits. Of the Hautbois section or true Hautbois, Triomphe d'Orléans is a fine type. The old variety known as Royal Hautbois is smaller, but valued for its peculiar

flavour and well worth growing. Another type rarely seen, the bush alpine, is distinct in character, but not of much value. This variety does not make any runners and is increased by division.

The seed is sown early in January in boxes in much the same way as Celeri, and on a slight bottom-heat. The soil used is very fine on the surface, as the seed is small. When the plants show, it is well to place near the light to prevent drawing. As soon as three or four leaves are made, the seedlings are pricked into boxes 3 inches apart each way, richer soil being used and again placed in a warm frame near the glass for about three weeks, when they are transferred to cold frames, gradually hardened off, and planted out at the end of April or early in May. They may be grafted by using pots instead of boxes at the first grafting, as the root is bad if fruit is August treated thus. Sowing in the open ground in April or May requires care. In sowing I find it best to sow broadcast and then thin out, leaving the strongest plants to fruit where sown, transplanting the thinnings into rich soil in lines 1½ inches apart. These give a succession to the plants not transplanted. Treated well they fruit freely the next season from June to September.

G. W.

THE WEEK'S WORK.

FRUIT HOUSES.

RIPENING MUSCATS.—The bright sunshine which we had during a greater portion of the last month was very favourable to the ripening of Muscat Grapes, and those having them at that stage ought not to experience any difficulty in maturing them properly. Muscats require a high temperature with plenty of light to finish the fruit perfectly; at the same they must not be exposed to the direct rays of the sun, or the berries will scald. Where the foliage is robust and shades the bunches too much, this should be tied back to admit more light. A sheet of white tissue paper being placed between the bunch and glass will be found sufficient to protect the berries. If the atmosphere of the house be kept too dry, red spider sometimes attacks the foliage, causing much annoyance. The only way I am acquainted with to get rid of this is to sponge the leaves with clear water, taking care not to touch the berries; sufficient moisture must also be maintained to prevent it from spreading. Ventilate early in the morning that the temperature may not rise too quickly, thereby causing a dew on the berries. Should the weather be cold and showery, a little heat ought to circulate through the hot pipes, or the fruit will be liable to crack. Black Grapes should be shaded and which are required to hang for some time longer will need careful treatment, as they will soon lose their colour if exposed to the bright sunshine. It is however, a bad plan to shade the foliage, and where this is not sufficient to screen the bunches a double thickness of blue tissue paper placed between them and the glass will have the desired effect. The house should be kept as cool as possible during hot weather by a free circulation of air both day and night. Sprinkle the border and path every morning when there is a prospect of a bright day, as this will assist in keeping the foliage healthy and the berries from shrivelling.

LATE HOUSES.—Due care must be exercised as regards ventilation, closing early so as to husband the heat, as previously pointed out in former calendars; the Grapes will then have got forward while the days are long and the sun bright. Wide houses with long roofs that have only narrow ventilators at the top are the most difficult of all to manage, as red spider first makes its appearance about half-way up the roof, when, if not checked, it soon spreads over the whole house. All such houses ought to run north and south, when a more even temperature could be maintained. The top lights, too, should be made to slide down, and if

in houses of such dimensions these were made 12 feet in length, there would be little fear of red spider first attacking the foliage half-way up the house. I have seen the foliage about half-way up in some of the large vineries in the Channel Islands eaten up with red spider before the Grapes have commenced to stone, and all through the houses being glazed as I have pointed out. Many of them (40 feet wide or upwards) have only a 30 inch or 3-foot lifting ventilator at the apex, the roof, too, being of tolerably steep pitch. It must not be thought that the heat in these islands (where the greater portion of the Grapes is grown) is higher than that in England, for, being surrounded with water, there is more moisture. Those who have to contend with such ill-constructed places would do well to provide a little larch wood along the centre of the glass on each side of the house. Large vineries may be all very well, but they should be properly ventilated, otherwise it is impossible to grow Grapes in them satisfactorily.

PEACH HOUSES.—See that the borders of early houses are not, in any case, fear from want of water, as the bright sun at this period of the year soon extracts the moisture from the soil. Where the lights can be removed, this should be done that the trees may be exposed to the weather. The foliage ought to be kept healthy by frequent spraying, as on this much of the future crop depends. Unless the wood is properly ripened and the buds well developed, they will in all probability drop instead of bursting into bloom when forcing commences. Trees that are forced hard are not long lived; therefore it is well to always have others in readiness to take their place; but as such cannot be started early into growth with any chance of securing a crop, the succession house may have to do duty for a year. Where there are several such structures, there is no difficulty in providing for any emergency, but where there is only one or two and a tree fails, this is a serious loss. In those houses where the fruit has just commenced to ripen the syringe may be used with care that no damage may be done to the crop. Trees trained too close to the roof glass are often attacked with red spider unless the foliage is constantly moistened; therefore do not fail to keep them well attended to in this respect. Some of the early varieties in cool houses will also be approaching their ripening period; the syringe on these in like manner must be used with care. The late kinds being still hard, there will be no fear of injury in this respect; therefore, the syringe may be applied freely to keep all insect pests in check and assist in promoting a healthy growth.

ORCHARD HOUSE.—There being less fear of mildew from cold draughts than there was earlier in the season, or from damping by the heat of culture, water may be applied more freely both to the roots and over the foliage. Apricots will be approaching ripening; these should therefore receive every attention. Trees in pots now filled with roots are liable to suffer unless great care is taken in watering. A free circulation of air should be permitted whenever the weather is favourable. With trees planted out, overfeeding has a tendency to cause gross wood, which ought to be guarded against, but where any show signs of weakness such ought to be encouraged by more liberal treatment, for unless the wood and fruit-buds are well developed the future crop will not be satisfactory.

FIGS.—In the early houses the fruit will by this have been gathered; the trees, however, must on no account be allowed to suffer from lack of moisture, particularly those in pots, as they soon will do during very hot weather. Water must be given in sufficient quantities to moisten every particle of soil. Plums, particularly the early ones, such as the Gages, that have light coloured skins and which are approaching ripening, should be exposed as much as possible to the light that their colour may be improved thereby. Avoid wetting the fruit too much at this stage, or cracking will be the result. Both Peaches and Nectarines growing in pots will re-

quire plenty of support at this stage, particularly those carrying heavy crops of fruit, as the soil soon gets exhausted unless fertilisers are used to keep it from doing so. Blood manure is a first-class article for this purpose, there being little danger of injurious effects from over-doses. Whatever is used, it is far better to err on the side of too little than too much; therefore small quantities at frequent intervals will be found most beneficial.

H. C. PRINSER.

KITCHEN GARDEN.

TURNIPS.—Turnip sowing may now be carried out more extensively than has been advisable up to date, for the weather will now in all probability be more conducive to the production of roots good in quality. I still, however, advise rather small sowings for private use, as quickly-grown roots that are not allowed to stand long after they have become full-grown will invariably be found of better quality than those which are older; and I find that I get excellent roots from sowings made towards the end of July or any time up to the middle of August, so that a portion of the land intended for Turnips should still be kept in reserve. Another point to be later considered is that those turnips which have not reached full size by winter are not nearly so susceptible to injury by frost as are those in a more advanced stage. Most growers have their favourite varieties, but I do not think that a good selection of the strap-leaved White Stone and the Chirk Castle Black Stone can be beaten for private use, and on these I depend almost wholly for late work. For some years I grew the Red Globe, and found it a very fine variety which bulked well, but unless sown quite late its size was objected to; the colour of its skin was also prejudicial, and caused it to be looked on with disfavour. The yellow-fleshed Turnips are also objected to in England, though farther north they are valued, and rightly so, for the varieties in this class are by far the sweetest of all. The best of the class is one that has been praised in THE GARDEN from time to time under various names, but which I have known for at least thirty years under the name of Orange Jelly—a suitable name, suggestive of its texture when well grown. It is a very shapely little Turnip, and would form an excellent companion for the two mentioned above, where the unfortunate prejudice against the colour can be overcome. All the above, being small growers, may be sown in drills 1 foot apart, or broadcast and hoed out to 1 inch; the latter method is preferred by the larger drillers, and if the soil is dry it is good plan in drawing them to draw a little deep than usual, and to water them well before sowing and covering the seed. Where birds are apt to be troublesome with seedlings, precautionary measures should be taken to ward off attacks from the first, for once they attack the young plants, they soon do much damage. A dusting of wood ash in the drills, and frequent dustings with the same material while the seedlings are quite young, will soon hurry them into the rough leaf, after which they will be comparatively safe from insect pests. Early hoeing and thinning should be a fixed rule, few things suffering more than Turnips from any neglect of these details of management.

ENDIVE.—I advised a few weeks back that a small sowing of Endive should be made for salad purposes, but too much dependence should not be placed on such an early lot, as the plants sometimes bolt in dry seasons. The time is now, however, come when we can safely make a fairly large sowing, and as big plants make the best hearts, some little care should be bestowed on the crop from the first. The best position I can find for sowing now is on an east border, when the full exposure to the aspect, and hence the plants will make steady growth, which will enable them to bear transplanting without much check. The soil should have been well manured and brought into good tilth some time previously. Drills should be drawn at a good distance apart to allow room for the hoe, as some of the seedlings may be allowed to come to their full growth where sown,

when they will come in fit for use slightly in advance of those which are transplanted. Should the soil be dry, water the drills before sowing as recommended for Turnips. Sow thin so that there will be no crowding before planting. I rely on the Round-leaved Batavian and the Green-curdled, as I find these are the hardiest and best varieties in each section, the former being excellent for cooking.

HERBS.—Most herbs are very forward in growth this year, and where they are in demand all the year round the present will be the best time for gathering, drying, and storing a portion of the crop ready for use during winter and early spring. To get the full flavour and pungency the various kinds should be cut on a dry day soon after they come into flower, and the drying process should be carried out in an airy room or covered passage way where moisture will be quickly carried off without exposing the herbs to the direct action of the sun, sun-dried herbs losing much of their flavour. Many people tie their herbs directly they are cut into small bunches and hang them up without taking further trouble, but the better way is to spread them thinly on benches and turn them over two or three times as drying proceeds, so that all the moisture goes off before bunching; bunching when green leads to their turning mouldy under the ties. When dried and bunchied they should be stored in some thoroughly dry place from dust, or, if the cook can be induced to take charge of them, the leaves and flower tips should be stripped from the stems and packed into jars or bottles and labelled for easy recognition. This is a good plan, as the herbs keep splendidly so, and are always at hand ready for use. Though it is only necessary to cut those kinds which die down in winter, I like to secure a supply of all kinds which retain their flavour when cut, and cutting keeps the bushy kinds in bounds. Those kinds of which all or a portion may be so treated now are bush and sweet Basil, the latter if cut almost to the ground now will break again and form plants for potting up later on for green leaves in winter. Horseradish, Marjoram, pot and sweet, spear Mint, winter and summer Savory, the last dries best when pulled up by the roots, Tarragon, not for storing or drying, but for vinegar, and to produce a useful secondary growth on a portion of the plants, and Thyme. Flowers of Camomile, when fully out, and the petals of the common Marigold (for soups) should be gathered when dry and fit, and treated in the same way as the cut herbs. July is the best month for striking Sage, and it is necessary to keep up a supply of young plants, as these resist severe weather better than do older plants. I find no difficulty in striking this useful herb in the open without using hand-lights or any other covering, by using slips or quite long cuttings, which are inserted two-thirds of their length in niches made with a spade, a few inches apart, and afterwards left to take care of themselves. Thyme is another herb of which the old plants are killed by severe frost, and the present is a good time to make a fresh bed of seedlings which may generally be found among older plants; these are sure to winter well if planted in good time and in a dry, sunny spot. Chervil should be sown now for winter use; new seed will be plentiful by this time on plants sown last year and which have been allowed to flower. I sow under a big old Plum tree, and here I obtain a full supply without any protection through the winter. The bold plantation of Sorrel should now be cut down low; this will cause the plants to throw a fresh crop of leaves, and the remaining portion of the plot should have all flower-stems removed.

CUCUMBERS.—Growing Cucumbers from cuttings is a method not often adopted, but I find it a very useful plan for giving a quick return in pits which are occupied with other things till late in the season, as cuttings come into fruit quicker than do seedlings and bear well if well fed. The method I practise is to line up the pits with fresh manure and leaves inside and out in the usual manner, putting in hillocks of soil when the rank

heat begins to decline, and inserting the cuttings when the soil has become thoroughly warmed through, watering them in with tepid water, and syringing them once or twice a day according to the weather. Until rooted the lights are kept as close as I consider safe and heavily shaded. Cuttings are made about 1 foot long, cut off about 1 inch below a leaf, no leaves are removed and about 4 inches of the cutting are inserted almost horizontally in the soil, burying the stem and the lowest leaf along with it. I allow the cuttings to an ordinary light in the day, but shade them when they grow away almost at once and the surplus one is removed when it is seen that the others are safe. Cucumber frames and pits in which plants are now growing and fruiting should be syringed freely when closing in the afternoon, as this will keep down red spider. If mildew is seen remove some of the older leaves and dust those which are left with flowers of sulphur. If green fly puts in an appearance, give slight weekly fumigations until it has disappeared.

GENERAL WORK.—Where the stud of horses is only small and there is no convenience for allowing the manure to lie in the straw till required, it will be necessary to begin collecting the droppings daily, with a view to making up a Muck-hill bed early in August. Spread the droppings thinly under cover until sufficient has been acquired. Tripoli or other autumn sown Onion which have not yet commenced ripening the top growth should be broken down at once preparatory to their being pulled and bunched. If allowed to grow any longer, mildew is sure to attack them, and from them it will spread to the spring onion plants. Continue to cut flowers from the Stock, whenever they appear, and finally look over the old and young plants and remove surplus shoots after which give the plot a good sprinkling of salt, which will do a better effect than usual on all plants that enjoy it in the drought continues. Make a further sowing of Coleworts, and plant out from earlier sowings both of this and of Savoys as opportunity offers. Sow also a further lot of French Beans if there is any doubt about former sowings lasting out the season. This will be necessary in gravelly or poor soils.

J. C. TALLACK.

NOTES OF THE WEEK.

Phlox Mr. H. Sturgis is one of the early-flowering (suffruticosa) section, producing small panicles of pure white flowers with a faint suspicion of pink. A pleasing and useful variety.

Monarda didyma.—This is one of the most striking of easily grown perennials, the scarlet heads of bloom being seen at a long distance off. It is a good plant for beds or masses, and a showy plant in a cut state for exhibition.

Campanula Van Houttei.—A good border kind, closely allied to latifolia, but neater in habit and producing large bell-shaped flowers of pale lilac or blue. It is a free-flowering plant of easy culture in ordinary soil and now finely in bloom.

Lilium Alice Wilson.—A remarkably dwarf, golden-flowered form of the Thunbergian section, very distinct, and most telling either for pans or groups, or grown in pots for the cool greenhouse it would be very pleasing.

Andromeda speciosa cassifolia.—A mass of this valuable flowering shrub was a noticeable feature in Messrs. Veitch's group at the Drill Hall on Tuesday last. The plants were a mass of pure white blossom, arranged in spikes not unlike those of Lily of the Valley, though nearly double in size. It is impossible to overestimate the value of such a beautiful shrub as this, which should be freely planted in large gardens.

—Amongst other trees and shrubs that are in bloom now this is very beautiful. I think it one of the finest hardy shrubs that we have. There are plants here 2 feet to 3 feet high and as much across wreathed in bloom of the purest

white. These are very attractive and are admired by all who see them. I send you by this post a spray, also a few Heath blooms, which are a little earlier this season than usual.—CHAS. REEVES, Two Dales, Matlock.

* * * Messrs. Veitch also send us from their Coombe Wood Nurseries branches of this valuable shrub wreathed in bloom.—ED.

Aster Bigelowi.—For the month of June this is a valuable species, while the fine mass of it shown on Tuesday last by Mr. Perry at the Drill Hall proves it a most abundant bloomer. The deep lilac-blue of the florets makes it a most welcome kind for beds at this season while the myriads of its unexpanded buds show how freely it flowers.

Lilium Roezlii.—A very distinct Lily, best described perhaps as a small L. Humboldtii in point of flower, while favouring the well-known L. pardalinum in its foliage. Originally discovered about 1870 by Roezl, the plant appears to have been lost till quite recently. Its distinct colour and elegant form render it a useful kind for pots or beds.

Eremurus in Sussex.—Mrs. Monk, St. Anne's, Lewes, sends us a photograph of Eremurus robustus taken in her garden on June 11. The length of the stem was 6 feet 2 inches, and the bloom 2 feet 2 inches. It was planted in October, 1894, in the centre of a bed of Madonna Lilies and Gypsophila in ordinary soil, and protected with ashes in spring.

Hemerocallis Thunbergi.—At the present time this is one of the most valuable things in the border, producing a large number of spikes from the best clumps and a great profusion of yellow trumpet-shaped flowers. It is welcome, moreover, because of the way it succeeds H. flava in its flowering, in this way providing a succession of bloom for a long time.

Lychins vespertina plena (double white Campion).—This plant is now finely in flower in many hardy plant establishments, and among border things is quite distinct. The large double and pure white flowers are slightly fragrant, and though a most useful plant in the border, is not good in a cut state, as it takes water badly owing to its pipe-like stems.

Brodiaea coccinea.—Among many fine things on Tuesday last at the Drill Hall, Messrs. Wallaces, at Colchester, had a charming lot of this distinct bulbous plant. The plant is of the simplest culture in light sandy soils or even in peat, and when established will send up its wiry stems to 2 feet high, these being crowned by an umbel of reddish-crimson tubular shaped flowers.

Lilium testaceum.—Something like a dozen spikes of this fine Lily were quite a feature in Mr. Prichard's group of hardy cut flowers at the Drill Hall on Tuesday. The examples, moreover, being furnished with some 2 feet of stem, displayed the numerous large flowers to advantage, and, judging by the clean growth present, this Lily evidently finds a congenial home at Christchurch among many hardy perennials.

Hamamelis argenteum.—Mr. Moore sends us from Glasnevin some flowerings branches of this dwarf growing deciduous shrub, which belongs to the Pea family. The foliage is silvery and whitish, hence the name, the flowers being purplish pink. It is a native of Asiatic Russia, is quite hardy, and grows to a height of from 5 feet to 6 feet. It may often be seen grafted on the tall stems of the Laburnum.

Geum Heldreichi.—This plant was freely shown in a cut state at the Drill Hall on Tuesday last by Mr. Amos Perry, Winchmore Hill. It is said to be a species from Constantinople, and has well-formed flowers intermediate in colour between those of G. coccineum and G. miniatum. The plant is full of promise, both as a border flower and for cutting. A semi-double variety with leafy bracts was exhibited in the same group.

Calochortus venustus citrinus.—This is perhaps one of the most charming and valuable of

this section, the flowers of a clear canary, almost golden hue, with brown pencilings and blotches on the petals. The Messrs. Wallace had this in splendid form on Tuesday, and seen in goodly quantity, as at the Drill Hall, is productive of excellent effect. In a cut state these flowers are among the most charming, being light and elegant in form.

Brodiaea grandiflora.—A charming little bulbous plant either for the rock garden or in masses in front of taller subjects. The clear deep lilac-blue flowers are very effective in a mass and come in rapid succession at this season. A noteworthy feature of this pretty bulbous plant is that it continues flowering for several weeks in succession. The bulbs may be had quite cheaply by the hundred, and planted freely would make a delightful feature in the woodland or wild garden.

Erodium supracanum.—This is the correct name of the species referred to in THE GARDEN nearly a year ago as *E. supracanum*. So far as the flowers are concerned, they are similar to those of *E. trichomanifolium*, with possibly a little more colour in the veins; the blossoms are perhaps slightly larger. The clear silvery leaves, however, render it a most distinct as well as desirable species, while its freedom of flowering makes it a welcome plant for the rock garden in summer.

Lilium candidum.—Just now the pure white flowers of this welcome species are very attractive, especially where there are good-sized clumps and free from disease. Quite recently we saw quantities of this fine Lily in the gardens at Claremont, where it is greatly valued. It was curious to note how in some clumps there was all but perfect immunity from disease, while in others the plants were more or less affected. In the worst instances, however, the flowers were fairly good, the disease only disfiguring the foliage about the base.

Pentstemon barbatus.—The brilliant spikes of scarlet of this are most striking, brilliantly displayed. Tall and elegant in appearance, it is a plant capable of producing excellent results either in large groups or planted freely and in association with other things. The pure white forms of the Peach-leaved Bellflower would fit in nicely with the above, and, flowering together, would give good results. The best variety is *P. b. Torreyi*, which has vivid scarlet flowers on stems 3 feet or more high. A fine bed may be made by planting this, to be followed by the pure white *Tigrina* a little later.

Calochortus nitidus.—This belongs to a race replete with novelties, many of them possessing the greatest beauty in form and colour, and full of interest to lovers of beautiful and charming flowers. The above species, seen for the first time, we believe, on Tuesday last at the Drill Hall, is likely to attract attention. The colour is a shade of mauve through which a flush of white passes, and having a blotch of indigo-blue on each petal, and internally a slight bearded base, and a few web-like filaments crossing to and fro. The flowers are of large size and produced in a large umbel. The exhibit came from Messrs. Wallace, Colchester.

Antirrhinums.—These are now among the most showy of border flowers, providing a welcome and useful variety of colour in many pleasing and beautiful shades. Quite recently in the gardens at Claremont we noted a fine strain of these things, especially telling being some handsome bushes of yellow and sulphur shades flowering most profusely. Evidently Mr. Burrell values these things at their full worth. In contrast to these shades which were produced on plants 2 feet high or nearly so, we find a dwarf variety about 9 inches exceedingly compact and with flowers of the richest crimson-scarlet. Quite near this fine form was a broad sheet of the Tufted Peony-Violetta covered with its pretty blooms, the two being splendidly suited for association, as doubtless another season will find them at Claremont.

Echeveria secunda glauca.—It cannot be said of this plant that it is too seldom met with,

for it is grown in quantity, particularly in public gardens and the like. In all these, however, the plants are shorn of all their floral worth for the sake of their leaves, and in this meaningless way they do duty by the thousand in so-called beds of carpet pattern. The other day, however, in the small garden of an enthusiastic amateur we saw a double row used as an edging, the rosettes being arranged quite close together, and, better still, the plants were full of blossom, the one-sided spikes of orange-red flowers being attractive in the extreme. And for the moment this was displayed to greater advantage by a band 6 inches wide of Sedum acre in full bloom, the latter forming the margin with the Echeverias immediately behind.

The Tulip Tree (Liriodendron tulipifera) in Westmoreland.—A few days ago I was shown a very beautiful flower and part of a branch of the Tulip Tree now in full bloom at Owl's Ash, the Westmoreland seat of Mr. John Holme. Never having seen this tree flowering anywhere in the county, I was interested in its condition. A few days ago I inspected it and found it in perfect leafage and bloom. The tree, I should say, is considerably over fifty years of age, and is at present about 90 feet high. The trunk is 3 feet in diameter at the base, and from that point three strong and healthy limbs spring and branch out. I have seen this tree growing very freely in Somersetshire, and was greatly struck with its beauty as a town tree in many of the most populous cities of the United States.—G. W. MURDOCH, Westmoreland.

Glaucidium Colvillei The Brindle.—It would appear that the value of this plant in the open ground is insufficiently recognised, if we may judge by its rare occurrence in such positions. Given good sound bulbs, however, the plants will when massed together produce a rare display of snowy white flowers on spikes about 2 feet high, and for blooming early in June in this way they have a value of their own. As a permanent plant, this should be more frequently grown in this way, and being perfectly hardy, should prove a great help to gardeners and others who always require large supplies of the choicest flowers. If cut and placed in water when the first flower expands, the rest of the spike will be as chaste and beautiful as though grown under glass, and in a cut state it is invaluable. To endure frost with impunity the bulbs should be planted 6 inches deep.

Tufted Pansy Florizel.—This is an ideal flower and a distinct advance upon anything of the same colour in the list of Tufted Pansies now catalogued. The colour is best described as a lovely blush lilac, in shape it is all that one could desire, and it is also rayless. As an additional attraction the blossoms are sweet-scented. For exhibition it is highly valued, as was evident in the best stands at the recent show of the National Viola Society. The habit of this variety is beautifully tufted, whilst its free-flowering qualities are most remarkable. Short-jointed growths, at each joint new shoots, each carrying blossoms of large size and good colour, at once pronounce it to be one of the best for the flower garden. While many of the older sorts required to be pegged down because of their leggy character, this new form absolutely dispenses of the need of any of these undesirable artificial accompaniments.—D. B. C.

The new dwarf Sweet Pea Cupid.—I have only seen this remarkable American variety in various places, and in each instance the plants in flower agreed with the description given of it on its introduction. The plant seems to be a deformity, as indeed are all excessively dwarf forms of naturally tall climbing plants. The stems are quite procumbent, stout, and with numerous short joints from which the flowers are produced; these are about the size of those of the ordinary Sweet Pea and pure white. The importance of this remarkable breed cannot be overestimated, as probably it is only a question of time when we shall have all the varied gamut of tints of the tall Sweet Peas represented in this dwarf, pigny strain, and which will be a great gain to

the open-air garden, especially to gardens where it is necessary to have compact masses of colour. Moreover, I think that we shall find that this dwarf strain will be more continuous in flowering than the tall sorts, particularly if attention is given to removing the seed-pods. Apart from its value as a garden plant, it affords a remarkable instance of the vagaries of plant life when under cultivation. Here is an open field for such as Mr. Eckford to work upon now that probably the limit of colour variation has been reached in the tall strain.—W. G.

Roses in Scotland.—These are now (June 27) beginning to open. As usual, the first to bloom are the Hybrid Teas. In a good class of Roses for amateurs, blooming continuously early and late, and perfectly hardy in the most severe winters. In my opinion they are the Roses of the future, for vector culture, and only red and crimson colours of good quality are wanted. Viscountess Folkestone, the finest of them all, is in full bloom, the flowers 4 inches across, deeply tinted flesh in the centre. Grace Darling follows, with flowers of a similar size. Some of them are red with me, others red and cream colour. Gloire Lyonnaise is a grand flower, white, with a tinge of primrose-yellow; unfortunately, scentless. Caroline Testout, sweetly perfumed, is a highly attractive Rose. Marquis of Salisbury is good in colour, but the flower is thin and the growth of the plant poor. The above are the finest flowers of the week. The plants are throwing strong shoots from the base and sides, making ready for another display as soon as the present flowers are over. Nothing could be more satisfactory for the amateur, who wants his plants in bloom as long as possible, with good flowers for cutting. Of Hybrid Perpetuals, very few are out yet, Princes Camille de Rohan being the best. This attracts attention on account of its rich deep velvety crimson colour, shading to black, and extremely sweet perfume. My plants are all cut-backs.—W. M. M., Edinburgh.

Carpenteria californica.—I look upon this plant as among the choicest and most beautiful open-air shrubs we have in our gardens. I am aware that by many it is regarded as doubtful and one that is liable to give disappointment, but I am convinced that when it is given suitable conditions (and these are not difficult to provide in any place) it is a most satisfactory shrub. This week I have seen it in perfection in Miss Breton's beautiful garden at Forest End, Sandhurst, in Berkshire, where she has it planted against a wall due south, but not nailed close to it, but allowed to take a free growth. The tallest shoots are about 6 feet high from the base to the top; every shoot is terminated by a cluster of large, pure white flowers, each 2 inches or more across. The buds expand in succession, so that there is a continuous display of flowers for weeks. There are not many shrubs that behave so, and this gives additional value to it. The specimen has been in its present place four or five years, but this is the first year that it has burst out in its full glory of bloom. It is one of those shrubs we have to wait for a few seasons, but it repays the patience. Miss Breton's garden lies on a knoll of Burrell sand, and is crowded with rare plants, that with many people are more or less failures—Californian, New Zealand, and even Australian trees and shrubs. In a future note I hope to give a few remarks upon the behaviour of some of the out-of-the-common trees and shrubs at Forest End.—W. GOLDING.

A noble flowering tree (Magnolia macrophylla).—We have had the pleasure of seeing the tree of this noble Magnolia at Claremont, and we are even more surprised at its beauty than before. It is about 40 feet high and not in what we should call a very favourable position, as the trees, although they shelter it, seemed to us to come too near it. The fact that it has lived for so many years there is surely proof enough of its hardiness, but as the ground is a little raised up out of the valley, it has no doubt escaped the

most killing frost. The soil, too, is of a fine sandy nature, which favours the tree and helps it to grow well. The flower, out in the bud and brought into the house—is beyond all price as to its beauty, and no Lily or anything we know could equal it in form. The leaves are nearly 18 inches long and beautiful in form, the undersides of a delicate silver hue. The tree is a native of N. America, and has been many years introduced into England, but that it is so rare shows how little attention people give to such beautiful things, which both in France and England were evidently much more freely planted a few generations ago.

—This valuable and rare tree is now flowering grandly at Claremont, where the gigantic cream-coloured flowers are daily expanding. The example is a large and consequently very old one, being some 40 feet or so high, and is probably unique in this country. The leaves are also of large size, and, including the petiole, upwards of 2 feet in length. From this tree three monster blooms were sent to the Drill Hall on Tuesday last, where they aroused a good deal of interest. Happily, too, Mr. Burrell had selected typical examples with handsome leaves attached, thus displaying its true character.—

Hybrid Alstroemerias.—At the present time large masses of the above charming flowers dower the garden with their beauty. We have scarce time to miss the varied colour notes of the hybrid Aquilegias before the Alstroemerias, with their harmoniously blended tints, are with us to take their place. Year by year the flower-stems are more numerous and stronger. This season my tallest flower-spike is 3 feet 11 inches in height, and I know of others that have reached even a greater stature. The hues vary from cream to crimson-pink, the lighter coloured pencilled with dark chocolate and the deeper tinted with yellow. I am sending a box of the various shades for your inspection. Alstroemeria aurantiaca also grows well here, the tallest specimen being close upon 5 feet in height, but its colours appear dingy in comparison with the varied tints of the hybrids. I raised the whole of my plants from seed, and when the tubers were formed the advice that they should be planted at a depth of 8 inches escaped me, so that they were but 3 inches below the surface. I was prepared for the worst. The thermometer on the low damp ground in which they were planted showed 20° of frost, but those unprotected escaped as scathless as those which had been afforded a liberal mulch. From this it would appear that in the south of England at all events these Chilean plants are absolutely hardy. No flower lover who sees a breadth of these Alstroemerias in their full beauty can question their value. They have likewise the property of lasting well in water when cut for indoor decoration, for which purpose they are exceedingly ornamental.—S. W. F., South Devon.

The weather in West Herts.—A moderately warm week. On five days the temperature in shade exceeded 70°. The nights were also, as a rule, warm; indeed, until that preceding the 22nd there had not been a single unseasonably cold night for nearly three weeks. The temperature of the soil has not been so high in the previous week, but still above the June average both at 2 feet and 1 foot depth. Very little rain has fallen since the last report was made, and no measurable quantity of rain-water has come through either percolation gauge for several days. There has been no lack of bright sunshine, the average duration amounting to over eight hours a day, while on two days the record exceeded twelve hours.—E. M., Berkhamsted, June 27.

—The changeable weather as regards temperature. For instance, on the 25th the highest reading in shade was only 63°; whereas two days afterwards the mercury rose to 78° in the hottest part of the day. The ground still continues unusually warm, the temperature at 2 feet deep being 5°, and at 1 foot deep 2° above

the June average. Very little rain has fallen during the last three weeks, the total measurement amounting to only about a quarter of an inch; consequently the soil is again becoming very dry. This is shown by the percolation gauges, through neither of which has any measurable quantity of rain-water come for ten days. Taking the month as a whole, this has been the warmest June I have recorded since observations were first taken here ten years ago. Rain fell on eleven days, to the total depth of about 2½ inches, nearly the whole of which was deposited during the first ten days of the month. So that June, which at the beginning promised to be so very wet, was after all, if anything, rather a dry summer month. The aggregate record of bright sunshine proved in no way remarkable, but was rather in excess of the June average.—E. M., Berkhamsted.

PUBLIC GARDENS.

CUTTING UP THE LONDON PARKS.

We read in the papers of restaurants and other structures being erected in the parks, and see some hoarding at Hyde Park Corner, all of which are of doubtful import to those who care for the beauty and dignity of the parks. If the Regent's Park and Hyde Park were forests like Epping, or even such big parks as the Bois de Boulogne, or the park of Vincennes, or Phœnix Park, Dublin, that are many hundreds, and in some cases thousands, of acres in extent, there might be reasonable excuse for building restaurants in them. But these London parks are only the size of a moderately sized farm, and surrounded by buildings, and to cut them up to make tea gardens is by no means wise. If anyone wants to see the effect of that we object to, he has only to go to the Regent's Park, and from the outer parts look towards the centre, where such erections rob the surface of its once fine airy and open effect. As each generation will probably demand structures for its own fancied wants, it is easy to see what this will lead to. Nothing is more unpleasant or undignified than such restaurants erected in parks, with their gravelled spaces and gaudy-berry aspect. Some years ago there was a quiet superintendent's house at the corner of Kensington Gardens, which for some reason was removed by the then head of the Board of Works, and a new house built in the park, cut into the surface of its most airy parts. We believe the money for this was found by Albert Grand, and the work done in response to his wish. The facts show that those responsible do not consider the landscape question at all, and therefore it is quite clear that some effort ought to be made to protect the parks in order that their freshness, character, and breadth shall be maintained. If we go on adding one trumpery structure after another, little of the parks worth seeing will be left. Those who build such structures do not think of their bad effect in parks; and, as usual, one bad thing leads to another, as where the spouting and acting are allowed to go on near the Marble Arch, all the ground near has now to be protected by too conspicuous iron railings, with spiked tops, which destroy any possibility of good effect thereabouts.—Field.

Tree-planting near British Museum.—The St. Giles-in-the-Fields Board of Works having obtained the sanction of the trustees of the British Museum, have unanimously resolved to have that part of Great Russell Street which is in front of the Museum planted with trees, and the Works Committee have been instructed to carry the proposal into effect with as little delay as possible.

Townley Hall and park for Burnley.—The Burnley Town Council have decided by a large majority to acquire Townley Hall and 62 acres of the park, which had been offered to them by Lady O'Hagan for £17,500. Forty acres of the land are to be set aside for a public park,

and the corporation have the option of utilising the remainder for building. The land is beautifully wooded, while the hall is one of the most interesting in Lancashire. It has been the seat of the Townley family for many centuries.

Hardy flowers at Hampton Court.—We regret that hardy flowers are much neglected here—the public gardens of all others around London where the situations are the most inviting for them. The best place in any public garden we know for a mixed border of beautiful hardy plants in natural groups is that against the wall right and left of the palace front. The main border here shows a few wretched lines of bedding plants, including some hundreds of yards of variegated Cockfoot Grass. The borders generally are not half covered with plants now—in the middle of June, and there is no good arrangement of them. Much ground is devoted to hardy flowers, which makes it all the more to be regretted that no grouping of any kind (good or bad) is practised. The enclosed gardens here are some of the most beautiful possible for the growth of hardy flowers, so that they might be seen to the best advantage; and the whole might easily be made the most beautiful garden near London.—Field.

A fine Walnut tree.—In the Baidar valley, near Balaklava, in the Crimea, there stands a Walnut tree which must be at least 1000 years old. It yields annually from 80,000 to 100,000 nuts, and is the property of five Tartar families, who share its produce equally.

A good idea.—The son of one of our best-known statesmen (says the *Gentleman's Magazine*) has hit upon a charming idea. In his garden he has laid out a "bed of friendship." Of every friend he possesses, he has asked a plant. The bed is a large one, and is already filled with a variety of lovely plants which have reached him from every part of England and the Continent.

Mr. Chamberlain and his Orchids.—Much has been written about Mr. Chamberlain and his Orchids. One fact mentioned in the April *Cassell's Magazine* may, however, not be generally known, and that is that about twenty gardeners are usually employed at Highbury, the care of the Orchids taking up the whole of the time of three of the number. For the welfare of these plants an experienced Orchid grower is held responsible; but Mr. Chamberlain himself still contrives to take a keen personal interest in their cultivation. On his Saturday to Monday visits, and when residing at Highbury during the Parliamentary recess, the best part of his leisure time is spent in the plant houses. Every plant is numbered according to a private catalogue. Mr. Chamberlain himself keeps, and the gardeners say that every one of the five or six thousand specimens at Highbury is individually known to him.

Anthericum Liligo.—Some fine clumps of this pretty species are now producing numerous spikes of bloom, and presently there will be quite a display of elegant snow-white flowers. Growing in a deep loamy soil where the roots can extend, the plant has not suffered in the least from the heat and drought of the year.

Coreopsis lanceolata.—Is at the present time one of the most serviceable of herbaceous border flowers. Not tall and elegant as the border-flowering profusely for a long period are points regarded by those who have to meet the demand for large supplies of bloom. In a cut state, too, it is very valuable.

Names of plants.—*Miss Witherb.* 1. *Oncidium maculata*; 2. *Veronica Teucrium* var.—*W. A. G.* —*Staphysagris Eupephalus*.—C. F. E.—*Peruvian Squill* (*Scilla peruviana*).—*W. G. E.*—*Sprengel's Jamoneum*. We have no recollection of having had the specimens from you.

"English Flower Garden."—A new and selected edition will be published next week, and henceforward may be had through all booksellers.

No. 1286. SATURDAY, July 11, 1896. Vol. L.

"This is an Art
Which does mend Nature: change it rather; but
The Art ITSELF is NATURE."—Shakespeare.

ORCHARD AND FRUIT GARDEN.

RASPBERRIES PRUNED AND UNPRUNED.

Last summer and autumn there was some correspondence in THE GARDEN, in which I took part, about the advantage or disadvantage of shortening back Raspberry canes to the extent which has become customary. My own opinion was expressed somewhat decidedly against the current practice and in favour of leaving the canes full length. Others took the contrary view, and "D. T. F.", if I remember rightly, wrote of the supposed weakening of the eyes all down the stem which results from leaving it intact. He will pardon me if I am mistaken in attributing this opinion to him; at all events it is generally held. It seems to me that experiment alone can prove or disprove this alleged weakening of the eyes, for it is certainly not universally true of plants that the maximum of good flowers and fruit can only be obtained by pruning. Tea Roses, especially the climbers, are an obvious instance to the contrary; it is their very nature to produce their bloom at the ends of the long growths, and although in the non-climbers a few large exhibition blooms are secured by cutting back, yet even in these an infinitely larger harvest, and of fine flowers too, results from pruning with the lightest possible hand.

With Blackberries, again, year after year I have observed that the finest fruit and the largest clusters come quite at the ends of the long trailing shoots. Actual experiment is, as I have said, the test, and I determined to put the matter to the proof this season in my own garden. My Raspberry plantation consists of two varieties, Superlative and Hornet, grown espalier fashion on wires. In February, instead of cutting back the canes to the regulation 4 feet or so, I simply trimmed off the few inches of unripened or withered wood at their tips, shortening down only a few canes for comparison. The result has absolutely justified my contention, the unpruned canes being simply laden with fine fruit from top to bottom. I see very little diminution of fruiting force in the lower eyes, and the total gain of weight of fruit is most striking. Perhaps a few larger berries could be found if they were wanted on the shortened canes, but their superior size is not at all obvious. Moreover, weight of fruit and size of berry is what is demanded from an eminently preserving fruit like the Raspberry. I shall never again do any pruning to speak of, and it is my belief that the common system of cutting down the canes in private gardens is a most unscientific one, and probably a mere unreasoning imitation of the market growers, who shorten down the canes only in order that they may stand erect without supports. In large market gardens this may be almost a necessity, but it is not so in the smaller Raspberry quarters of private gardens, where stakes, wires, and other devices for tying in the long canes are managed without difficulty.

In another way we are unscientific, I am convinced, in our cultivation of this most valuable fruit. It is probable that all plants which travel fast and far by stolons or runners are impatient of restriction for any length of time to the same spot. Their travelling signifies

that they quickly devour some constituent of the soil which is necessary for their well-being, and must seek "fresh fields and pastures new." But it is our custom to draw our crops of Raspberries from canes produced for several years from the same stool. Let anyone actually try—as I have tried—the experiment of leaving the best of the canes which perish in springing up out of line with the espaliers or irregularly between the staked stools, and he will not fail to be struck by the great superiority in size and quantity of their produce. Of course, the result is a very irregular plantation, and if such irregularity is an offence to the symmetrically-minded gardener, he must keep to his rows and mathematically-disposed stools. I confess that for the sake of tidiness I have myself been accustomed to grow my Raspberries espalier fashion, but for all that the best gardening is that which elicits in the highest degree the powers of a plant in yielding the most and the best of flowers and fruit, and the whole character of both Strawberries and Raspberries points to their being dealt with as annuals, or rather biennials, i.e., the best crops will be secured from plants which came into existence last year, fruit this year, and are then cleared away. The worst enemy of the Raspberry is drought, to which my countryside is very subject. This year we have had, as I write (July 1), no rain at all save about two light showers since early April. Under these most untoward circumstances it is instructive to observe (1) that the additional leaf surface of full-length canes enables them to hold out much better than those which were pruned, and (2) that young canes, i.e., canes on young stools, hold out infinitely better than those on older stools.

Andover.

G. H. ENGLEHEART.

Peach Amandine June.—This is, I consider, the best early Peach. I have not come to this conclusion hastily, as about seven or eight years ago I wrote some notes in THE GARDEN as to how well it did at Bridghead House, near Dorchester. I have grown it since that time and seen it in many other gardens. In every instance it has given the greatest satisfaction. I have a tree of it growing in a cold Peach case. This year I commenced gathering from it on June 19. I find, too, that the flavour is very good.—J. CROOK.

Strawberry Latest of All.—The name of this variety seems to be somewhat a misnomer because very fine fruits were largely shown at Richmond on the 24th ult., but the long-continued heat and drought have put many usually late things somewhat out of character. The variety has broad flattish or wedge-shaped fruits, much like those of British Queen or Dr. Hogg, from one of which no doubt it originated. It has excellent flavour, but, like those named, the fault of not fully ripening the points of the fruits. That is a fault that should not be found in any Strawberries this season. The best sort for flavour were Gunters Park, rich in colour, and Latest of All. One exhibitor sought to deceive the judges by putting up round and cockcomb Jas. Veitch as distinct.—A. D.

Quality in preserved Strawberries.—In our anxiety for big things, the Strawberry included, I trust we shall not lose sight of our good preserving kinds, as though these are not large, they are good, and possess merits the larger kinds are deficient of. So far I have not yet found any variety to beat King of the Earliest. It is of dwarf growth, and, like most of this section, produces a better crop the second year after planting. I think this is superior to the well-known Black Prince, a variety largely grown thirty years ago, but not so good a copper as King of the Earliest. Some lovers of Strawberries object to these somewhat dark fruits when preserved, preferring a brighter colour with more acid flavour, and for

this purpose the Grove End Scarlet, an old variety, cannot be beaten. This is a small bright red berry, and when cooked it preserves its shape and is much liked on that account. The same may be said of Vicountess H. de Thé, one of the best Strawberries grown. It is a splendid fruit when preserved—but if only one Strawberry could be grown for eating and cooking I would give the preference for its all-round excellence. An American variety, Crescent Seedling or Little Gem, is a very fine type for early use and cooking. Many like the Elton Pine for the purpose, and I do not know of any bred with better flavour or colour. The above I have found the best for the purpose named. I usually allow the plants two or three years' growth before discarding them, and in the case of varieties like Black Prince the plants are only kept clear of each other between the rows, as I find they suffer less in seasons of drought.—G. W.

Strawberry Leader.—I have just gathered (July 4) the fruit in the open of the new Strawberry Leader, one of the Messrs. Paxton's latest additions. There need be no doubt as to its value for the open ground. It is a very valuable introduction as a mid-season fruiter, richly flavoured, and a grand grower. In hot seasons it does well, as, having a smooth foliage on stout foot-stalks, it is less affected by insect pests than the soft-leaved varieties. I think Leader will be an excellent kind to follow Royal Sovereign. It has size and quality, and its free growth and free setting should make it a valuable variety.—G. WYTHES.

GRAPES SHANKING.

Would you let me know why the enclosed berries of Foster's Seedling are shanking? I find also that some Black Hamburg in the same house are similarly affected. I put in a new outside border last February to a depth of about 20 inches, and brought up roots I found, which were but few, to the surface. The inside border is only 1 yard wide. I have twice this season dressed the inside border with sulphate of ammonia at the rate of 1*lb.* to the square yard and watered it in, one dressing when starting, the other when I finished thinning. The vines are old and have previously been cropped very heavily. Foster's Seedling shrank a little last year, and the year before it cracked, but as that season was very wet and the principal border outside, I laid the blame to too much moisture. Both borders included are scarcely 9 feet wide and 4 feet or 5 feet deep. I cannot increase the width on account of the situation. To add to the troubles already mentioned, I had to absent myself for a few days, and only came back to find a large quantity of the leaves scorched from want of ventilation. I shall be very pleased if you will advise me as to what is best to be done.—J. G., Oldham.

* * * Grape Vines are long-suffering and patient under abuse, but sooner or later they break down under bad treatment of any kind. Because they are naturally of a most productive habit of growth, Black, Hamburg and Foster's Seedling are the most abused of all Grapes. I have seen the former so regularly overcropped, that at least more berries shrank than were eatable, while Foster's Seedling has been so over-weighted with bunches, that the variety was unrecognizable. The bunches were long, thin and loose, the berries small, round, and quite green when ripe, and the flavour far inferior to that of Royal Muscadine ripened against open walls or hedge fronts. Judging from the facts supplied by "J. G." he is now placed at a serious disadvantage, owing to the Vines having in previous years been much overworked, and his experience coming just at this opportune time ought to act as a warning to many professionals as well as amateur gardeners, who will persist in recklessly over-cropping their Vines. Instead of one acre sometimes two bunches being left on every lateral, a far more valuable crop would be had by reducing the number to a bunch on every second lateral. Do not wait till colouring has commenced or been going on long enough to

show that it will be faulty, nor till shanking has started, before reducing the number of bunches to reasonable limits, but set about it at once. Not only are the colour and quality of the berries of over-ripened or over-cropped Vines indifferent, but the attempt to perfect extra heavy crops each year must inevitably lead to a breakdown.

In the instance under notice the Vines would appear to be at a great disadvantage as far as the borders are concerned. It is not so much the width as the depth that is at fault; they are too deep. When roots are tempted to strike, or are driven downwards a depth of 4 feet or 5 feet, they tend to do such good service for the vines under deep root-shaking as frequently ascribed. It is near the surface where the roots will form the most root fibres and be the most likely to profit by food and moisture placed at their disposal, and be benefited by warmth and air. A depth of 2 feet to 3 feet of border—that is to say, soil alone—is ample, and in this the roots ought to be kept active by means of top-dressings, moisture and mulchings. If they leave it and strike downwards, shanking, mildew or other evils will most probably have soon to be reckoned with. I question if there are any roots in the inside border worth taking into consideration, but if there are sufficient to do good service, then not nearly enough water has been given them. Watering either inside or outside borders at fixed or stated times I have always held to be a mistake. They ought to be treated exactly the same as soil in pots, or watered whenever approaching dryness. Delay watering till the borders are quite dry, and much harm will already have been done to the roots, and much larger quantities of water are needed to remoisten the soil than need be used at two waterings when these are given at the same time.

Worn-out old borders well filled with roots ought to hold liquid moisture in surface dressings of manure, such as more frequently given to comparatively new borders, and sulphate of ammonia alone is but a poor food to give Vines. It supplies nitrogen alone, whereas phosphoric acid and potash are usually more needed. If "J. G." prefers to mix his own manures instead of buying other makers' special mixtures, he ought to use one part of either sulphate of ammonia or nitrate of soda to two parts each of super-phosphate of lime and kainit, the last supplying potash, and apply at the rate of 2 ozs. per square yard. The two nitrogenous manures named dissolve and act much more quickly than the phosphate and kainit, and in about a month later more of one of them should be applied at the rate of half an oz. per square yard to keep up the supply of nitrogen. Well-diluted drainings from a mixed farmyard and sewage water greatly benefit Vines when given before the borders are quite dry, or after a very dry border has been remoistened either by rain or with the aid of the watering-pot. Once more I repeat there should be no fixed rule as to when and how often to water, as we have had charge of borders which were so cold and retentive that it would have been a mistake to water them other than once in three weeks or a month, and at the present time I have borders that part with the manure so quickly as to need watering once a week. That is where individual judgment ought to be exercised. Water a retentive border too often and it becomes saturated and sour, the roots perish, the wood is soft, the leaves turn yellow, and the crops are poor. Apply too little moisture to the non-retentive borders and the roots strike downwards or out and away in search of it, a precursor of shanking and also red spider, faulty colouring of the berries, and general debility.

Market gardeners, when their Vines are worn out or otherwise become unprofitable, adopt the simple plan of rooting them out and starting afresh either with Vines or Tomatoes. Private gardeners are differently situated. They must keep up a steady supply of Grapes, or, at any rate, would get into trouble if the usual number of bunches were not forthcoming every season, and their only way out of the difficulty is to renovate their borders and in this way restore the exhausted Vines to a

better state of health. This is what "J. G." has attempted with, as yet, poor results. The Vines have scarcely had time to derive much benefit from the "new border," and may do better next season. At the same time I doubt the efficacy of the method adopted. It is true paring the surface roots and top-dressing with fresh compost have done good service in many cases, especially when a mild hothit has been formed on the top to draw up the roots, but in the instance I am discussing the bulk of the roots has gone down too deeply. This the shanking denoted and "J. G.'s" note corroborates, and the correct action would have been to start removing the roots in the autumn, or while yet the leaves were green, and to commence at the front of the border. All the soil should have been gradually forked away from the roots down to the drainage, following this up to within 3 feet or so of the house, or stems if the Vines are planted outside. All roots found running down through the drainage should be severed, and with the rest, after duly cutting out those damaged and cleanly cutting over all broken ends to facilitate healing, be relaid in good fresh compost very much nearer the surface than formerly. The depth of border might be lessened with advantage by adding to the drainage, and if long, naked, old roots are noticed at short intervals and surrounded by extra good soil with burn-bake freely added, they will emit root-fibres in abundance, or with far greater certainty than if merely relaid in poorer soil. Treated in this way, in September or the early part of October fresh roots form before the leaves fall and for a short time after, this meaning a better start in the spring than if the renovation is delayed to a later period.

I have known old Vines completely lifted out of inside borders early in the spring or after top growth had commenced greatly improved by the process, carrying a good crop the same season; but as a rule Vines being renovated ought not to be heavily cropping so formerly, as the previous root action is to a certain extent paralysed and the new soil is not yet in full possession of it. It is also advisable to lay in fresh rods to take the place of the gaarded and, probably enough, much skinned old ones.

As far as present crop in "J. G.'s" viney়ard is concerned, it may not be too late to lighten it considerably, and this is particularly desirable now that the primary leaves have been scorched so badly. Laying in sub-lateral growths may be a means of improving root action in the autumn, but these young leaves will not do the work the older ones would have done. That is not to elaborate sap before they are fully developed, and will not do much for the bunches. A good circulation of warm dry air promoted on dull days by heat in the hot-water pipes will prevent cracking of berries, but not shanking. The borders may be dry, but if the house is closed and the atmosphere moist and stagnant, wholesale cracking of Foster's Seedling and Madresfield Court berries is almost certain to take place. Dispensing with fire-heating, and neglecting to give little or much air all day long, may easily prove a costly mistake, especially when we have a sudden change from hot, dry weather to dull, muggy days.—W. IGGULDEN.

Peach Alexander.—This day (July 1) I have gathered six fruits of Alexander peach from a tree growing in the open against a south wall. Have any ever Peaches been gathered from this open situation?—A. YOUNG, *Witney Court, Stourport*.

Apple Irish Peach.—This most excellent early dessert Apple is again fruiting freely on an espalier. It cannot be treated as an ordinary espalier so far as pruning is concerned, as it fruits on the extremities of the previous year's growths, which are carried out in summer, generally in July, leaving out the very strongest and tying them at equal distances outwards and inwards and direction. Their number can be still further reduced at the winter pruning, as it can then be seen which shoots have fruit buds on their points and which have not. My opinion is that Irish Peach would do well in bush form in sheltered

gardens having a deep, rich and rather light soil. Its flavour last season, owing to the extra amount of sunshine when ripening, was delicious.—J. C.

Watering Strawberries and Raspberries.—Those who have light soils and resorted to early mulching and watering will have reaped the benefit this season, as though we have had rain there has not been sufficient to reach the roots of Strawberries, and Raspberries have fared worse. I have never seen Strawberries produce such good fruit and of such good quality as they have this season in spite of drought where attention was paid to watering. These remarks apply to young plants. Old plants suffer worse, as they have not the advantage of rooting down in recent deeply dug land, thus showing the value of young plants in dry seasons. Raspberries are finishing a wonderful crop, the fruit large, clean, and good where watered and given a heavy mulch of decayed manure or even litter and watered thoroughly once a week. The advantage of restricting sucker growth is now seen, as the plants having a large crop of fruit are not in position to support the weight of suckers. If these suckers are reduced to three or four at the most to a stool the plants have a better chance to finish a heavy crop, and, given moisture freely, there will be no lack of Raspberries for some weeks.—G. W.

Raspberry Superlative in dry weather.—I have in previous notes written of the superior qualities of Superlative, and this season I am so pleased with the crop, and the taste, that I am inclined to complement my remarks and add that it is the best dry weather variety I have grown. The crop is immense, and in spite of the drought the berries are large, juicy, and richly flavoured. Last season I was taken to task in these pages for my remarks concerning this Raspberry, but after my experience of it this season I am as much in favour of it as ever. Give plenty of manure, restrict sucker growth early to three or four to a stool, and strong canes able to support themselves and produce large fruit in quantity will be had.—G. WYTHERS.

American Blackberries.—After making three or four vain attempts to get these to grow satisfactorily in two different gardens, I have at last succeeded in doing so. My first attempt (now several years ago) was made in a garden where the soil was naturally heavy and not too well drained with plenty of manure available. In this case I tried them with manure and without, but I did not get a stem more than 3 feet high, while some varieties refused to grow at all. Twelve months ago last autumn I planted in another garden the sort known as Wilson Junior without in any way preparing the soil further than digging it up deeply. In this case the soil is fairly heavy on top, with a bed of gravel 2 feet below. Last autumn, seeing that there were indications that the plants would be likely to thrive, I took off several inches of the top soil and filled up the space with well rotted manure. One plant has made a growth up to the present time (July 3) of 10 feet, and other shoots are branching out about 3 feet from the ground, so there is great promise of growth to furnish a crop next year. Wilson Junior is certainly a prolific variety, as on the last season's shoot there are clusters of fruit every few inches up the stems which are promising to grow to a good size. My experience appears to show that because Blackberries fail in one garden, that is no reason why they should not be tried in others. It appears that when these Blackberries once start to grow they are both vigorous and fruitful.—J. C.

Strawberry Latest of All: its culture.—This is a grand dry-weather kind, and in my opinion one of the very best hot-weather varieties which can be grown on poor, thin land. The flavour, too, is excellent. I think it is not the largest Strawberry, but this matters little where the quality is so good. For July fruiting I rely upon plants that have been fifteen months in their growing-quarters. For this reason, that though I am a strong advocate for annual planting, the above variety, being a late fruiter, produces so few

runners, that it is too late before they can be secured, and I find it best to make a fresh plantation early in the spring, the plants being wintered in rows rather widely. The plants are so fine many weighing 2 oz., that they well repay for the trouble. This Strawberry does grandly on a north border for late supplies. It approaches British Queen in quality, but is a much larger fruit and produced in greater quantities. It will grow where the Queen fails.—G. WYTHERS.

KITCHEN GARDEN.

EARLY PEAS.

PEAS being a very important crop with me—upwards of an acre of ground being devoted to their culture—I will relate my experience with the earliest section this season in reply to "H. C. P." at page 459. As regards the earliest crops, these are about as good as any I ever remember seeing. I have two classes of soil, one being a deep sandy loam—the garden being exposed, the elevation also being high—the other of quite a heavy description, the garden being low-lying. If anything, the Peas from the latter soil have been the better, and considering the season, this is what might have been expected. The soil in both cases was well worked and freely manured with cow and horse manure, the lighter soil being bastard-trenched. Considering the attention given to mulching, and in the low-lying garden attention to watering, I think I may safely say they have had a fair trial. Of the varieties grown, I have had Kinver Gem and William I. among rounds, and in Marrows, William Hurst, Chelsea Gem and Veitch's Early Marrow, these followed by Dr. Hogg, Gradus, with successive sowings of Veitch's Early Marrow, William Hurst, Chelsea Gem, Duke of Albany and Criterion. Excepting the sowing of William Hurst in pots, all were sown direct in the open during the months of January and February. Of the pot-raised William Hurst I had 600 5-inch pots, which were sown during the first week of the new year, and were placed in a cold frame. After germination had taken place and the young Peas were showing above the soil, ample ventilation was allowed, the weather experienced at that time allowing for this. The growth under this treatment was very sturdy, and the plants were ready for putting out by the middle of February. I believe the mistake many people make with their pot-raised early Peas is allowing them to remain too long before planting out, with the result that the young Peas become stunted. When this takes place it is impossible for them to make a free growth—in fact, they rarely reach above the height of a few inches, that is the dwarfier early Marrows, of which William Hurst and Chelsea Gem are types. At the time William Hurst was planted out the roots were not in the least matted—in fact, care had to be taken to prevent the ball falling to pieces. At the time these Peas were being planted I noted two or three writers advising early pot-raised Peas being held over for planting until the early part of March. I firmly believe it is not wise to be too stereotyped in giving advice on such operations, as seasons should be taken into account. Peas sown at the new year in pots and the planting of these deferred until the early part of March during such an abnormally mild winter as the past could not have been but stunted, and from these it is hopeless to expect satisfactory results. It matters little however liberal the after treatment, they do not seem to get over the check

they have received. When the time comes—and their age gauges this—they commence to flower and form pods, and when this takes place the haulm stops lengthening and the Peas altogether lose their vigour. After being planted the young Peas were protected with Laurel boughs placed rather closely along each side of the rows and allowed to remain some time. Under such treatment the plants grew away strongly, branched freely, and eventually reached over 2 feet in height, and podded very freely indeed from the base to the top; in fact I never saw early Peas pod more freely. Before the dry weather could do them any harm they were well mulched with half-decayed manure, covering the whole space between the rows. On account of the extreme dryness of the weather three or four heavy waterings were given. The amount of produce gathered from these alone was considerable. On one morning alone I gathered five pecks. I commenced gathering from these on May 28.

The plants of this variety, i.e., William Hurst, which were raised in the open in the first week of the new year, did equally as well, but grew higher and branched more freely, the crop also being heavier. These likewise were mulched and watered. Grown side by side with Veitch's Early Marrow, it was the better of the two in every respect. This latter variety grew taller, but the quality was not equal to that of William Hurst, and although William Hurst was gathered from the first, it also kept longer in gathering condition than Early Marrow. This latter bears a very strong resemblance to Dr. Hogg. This is my first year's experience with Gradus, and so far it is a Pea which I like, and likely to prove a good dry weather Pea. I am saving as much as I can for seed so as to be able to sow more largely next year.

In the other garden, where the soil is altogether lighter and drier, but deep, well worked, also freely manured, but where it is not possible to water, there is a contrast, the haulm not being so strong, the crop also being more quickly over. On this soil I had William Hurst, Chelsea Gem, Early Marrow, Gradus, William I., and Kinver Gem, these being followed by Duke of Albany and Criterion. Kinver Gem was the first fit for gathering, this being ready on May 23. This is a heavy and free cropper, and, like William I., not to be compared with William Hurst or Chelsea Gem for quality. Kinver Gem is useful for an early dish or two, but I should not care to depend upon it for the earliest solely. Like "H. C. P." I fail to see the advantage of sowing the early hard, round-seeded Peas, and, like him, have a decided preference for the dwarf Marrows. That these are not adapted for early sowing is a mistaken notion, and those people who write against their being sown early cannot have given them a fair trial. As a second early, Criterion has done grandly. As an experiment this season, I sowed a few rows of No Plus Ultra on March 3. The plants are shorter in the haulm than others sown later, and are now (July 1) commencing to crop. In fact two pecks were gathered on June 26. I will note their behaviour later on. The quality of this Pea is so good, and if it will succeed well when sown at the date noted, it will be just as well for this purpose as keeping it altogether for late work. So far, it seems as if it will keep on cropping, although the weather is so dry.

Withey Court.

A. YOUNG.

Dwarf Beans and red spider.—In many gardens before half the crop is cleared the dwarf Beans are ruined by the ravages of red spider. I find it an excellent plan to give a watering overhead in

the evening, and though the moisture given may not be sufficient to reach the roots, it preserves the tops, and as long as these are healthy the crop does not fail. A bucketful of liquid at the roots at this season produces enormous crops, and if these are gathered daily they do not rob the plants so much, and the complaint often made as to dwarf Beans soon getting toll will be avoided. Few vegetables give a better return than the dwarf Bean if the plants are kept clean.—S. H. B.

Planting vegetables.—Planting will now be proceeding vigorously, and the soil being so necessary, I have found damage overhead in the evenings after bright sunny days do much to restore vigour. Drills when planting are of great benefit to the plants, as what moisture is given is readily conveyed to the roots. The drill also gives a certain amount of support to draw plants, warding off winds which soon dry the soil round the roots. If the drills are thoroughly watered before and after planting, it is surprising how long the roots remain moist. Once the plants make new fibrous roots there is less fear of collapse. Autumn Broccoli, Brussels Sprouts, and autumn Cabbage should receive first attention, the Savoys, Kales and Coleworts soon make headway, and make splendid growth as the nights get cooler.—G. W. S.

Pea Duke of York.—For three seasons I have grown this above Pea and have it this year in quantity. I am much pleased with it on account of its good qualities in light soil and during drought. For large pods I have usually grown Duke of Albany, but it is not a profitable variety, as after one or two heavy gatherings there are no pods left. On the other hand, Duke of York continues to crop, and the quality is all one may desire. I am aware market growers may prefer a variety which turns in all at once, but my remarks concern those who grow in smaller quantities, and if 'hey require a medium grower with pods of good size and in abundance, I would advise them to give the above a trial. For forcing it is very good and may be termed a hardy variety. Though it is difficult to advise, with so many varieties to select from, I do not hesitate to place Duke of York in the front rank for quality and cropping.—S. H. M.

Turnip Red Top Globe.—I notice the above Turnip was one out of a limited number which received three marks at Chiswick lately, thus showing it can hold its own with newer kinds, and I feel sure it will be years before it is beaten. Red Top Globe is very handsome and a fine exhibition Turnip for late shows, remaining good so long after it is matured making it doubly valuable. For July and October sowing I find it the best, and though for midwinter and the latest crop I rely upon Golden Ball and Chick Castle, Red Globe is superior for autumn and early winter. This variety does not run so quickly as some, and though the top has a band of red, the flesh is of a delicate white. Where good Turnips are required from September to early in the year, I would strongly advise growing Red Top Globe.—G. WYTHERS.

Transplanting Parsley.—Gardeners who have a hot dry soil to deal with and need a good supply of Parsley in autumn and early winter might save themselves much disappointment resulting from failures from occasional sowings, especially where, as in many gardens, the seedlings are liable to turn yellow and fail or to be attacked by wireworm, by adopting the transplanting system. Parsley is always very slow in germinating, seedlings from beds sown in March and April not being large enough to thin out till the commencement of June. If at this date the young plants instead of being castaway are pricked out 1 foot apart on borders behind espalier trees or other semi-shady positions, the soil being fairly rich, good, well-fertilised plants will result at the date above mentioned. In gardens where Parsley grows freely the necessity of transplanting is reduced to a minimum. A sowing for very

early spring use should always be made during August to be protected in winter by a frame.—*J. C.*

Pea Yorkshire Hero.—I had usually looked upon this Pea as a midseason kind, but last year was advised to give it a trial with the early varieties. I did so, and have every reason to be satisfied with the result. Sown the same day as William I, it was fit for use nearly a week earlier, and what is of far greater consequence to me, the quality is much superior. It grows about 2 feet high, requiring only very short stakes, if any; and it is a splendid cropper. Is this the kind that is usually sold for this variety? I am under the impression that there are two kinds in cultivation under the same name.—R.

Storing vegetables.—Will any of your readers kindly tell me the best way to store vegetables for daily use in or near a kitchen or scullery, so that they may be preserved and kept from the influence of light and be fresh and easy of access? The kind of bins or other contrivances to keep them.—W. H.

* * * Our vegetables are stored in square recesses. There are two lots, one above another, on the north side of a scullery where there is no fire, and arranged thus the lower boxes are for roots, Potatoes, Carrots, and Onions, or heavy roots, but 3 inches from floor or from racks made to take away moisture. All boxes or partitions are closed in with sliding doors to keep dark and prevent drying, as vegetables so soon wither and Potatoes get green and lose flavour. My advice would be to have the opening level with floor to sweep out dust or loose soil, and it is not necessary to have tiers one above another. I find Brasicas keep best on the second shelf or tier, and I have twenty-four boxes or receptacles, twelve on floor with bottom 3 inches from stone floor, twelve above for Beans or choice vegetables, and two boxes are fitted with movable zinc trays to hold water. In these are placed French Beans, stalk end downwards, also Cucumbers, Asparagus, and such vegetables as require to be kept cool and moist. These boxes are of great use, as the vegetables stood in them can be kept fresh for days.—GEO. WYTHES.

The white Artichoke.—At p. 460 Mr. Tallack gives us an interesting note on the value of the above, and I am pleased to see him recommending its culture, as I consider it a great advance on the older forms. I had not noticed the points named in Mr. Tallack's note as to its quick growth compared to that of the purple form, although I had noticed the tubers were ready to lift in advance of those of the older kind. As regards quality, I consider it much superior, and as regarding taste, I find it equal to the old variety. I had a fair breadth not lifted when the severe frost of February, 1895, set in, and the tubers were of splendid quality in April, so that Mr. Tallack need not be afraid to lift it in quantity. This season I have only a very small breadth of the old variety, and next year shall discard it entirely in favour of the newer white. There are two varieties of white tubers. I have a small stock of one which is much longer than the other and more pointed.—G. W.

Dwarf Peas.—The prolonged drought has had the effect of making dwarf Peas even dwarfer than they really are, and if we are to have frequent recurrences of this weather, I think that those kinds that are intermediate between such good old kinds as American Wonder and String Gem will come into great favour, for the very dwarf sorts are really too short in the haulm this year to yield anything like a full crop, and I find that such sorts as Veitch's Perfection are the year not very ten tall to do without stakes, and certainly when allowed to lie on the ground they help to keep the sun's rays and parching winds from robbing the earth of its much needed moisture. Happily, there is no lack of good sorts now of any height one may desire, but when one has such seasons as this to contend with, and many varieties only reaching about half the height, they are set down in catalogues, if per-

plexes the novice as to how to proceed. In suburban districts the cost of Pea sticks is such a heavy item in their culture, that the question arises whether it is best to give up staking or Pea culture altogether. With a race of Peas that produce fine pods on haulm not more than 2 feet high, the difficulty can be got over by giving a little more space that is given to the Tom Thumb type and letting them do without stakes altogether.—JAMES GROOM, *Gosperton.*

SHORT NOTES.—KITCHEN.

Early Potatoes.—“W. S.” in writing on these speaks of not being impressed very favourably with Sweet Potato. He thinks he may not have a very good stock of it. There are two types of it in the market. One is a white and the other a yellow flesh. The yellow-fleshed kind is much the better, and will be a grand Potato for early work.—DORSET.

Effect of drought on Peas, &c.—I do not remember to have seen Peas suffer so much from the dry weather as they have done this year. The hot days we had about the 17th ult. seemed to paralyse the growth, although the plants had been watered and mulched. It seems that, do what you may, in such weather the growth is not able to endure it. I consider the new season's pods will be worse than those in the last season three years ago. Some kinds appear to be able to endure the heat much better than others.—J. C. F.

FLOWER GARDEN.

LILIES AT KEW.

At the present time there is a capital display of Lilliums, more especially of the earlier kinds—that is to say, *L. umbellatum*, *L. croceum*, *L. candidum* and others—a sort of fortease, as it were, of the wealth of bloom as well as fragrance that may be seen for some days to come. It is worthy of notice, and doubtless imitation, also, that these things appear here and there, springing up among evergreen shrubs and the like that a week or two ago since were also all aglow with flowers. And very evident too, at a glance, is the fact that the association of Lily and shrub is one of these things that should be more frequently indulged in gardens generally, as the one detracts nothing from the other, but rather assists to the fuller development of at least one of them, and this without doubt the Lily. Only a week or two since attention was directed to the rich display of Rhododendrons at Kew, and now in the self-same beds as these we find masses of Lillies, many of them sending their spikes of undeveloped flowers some 5 feet or 7 feet high, that presently shall be aglow with blossom. Not in solitary spikes it should be noted, but in fine established masses. Some of the clumps that from the foliage alone appeared to be *L. pardalinum* must have fully a score of towering spikes of bloom, that will be well above the heads of the Rhododendrons that have so well shielded them from biting frosts and cutting winds in the past, and even now guard them equally from wind and storm. In a few days, possibly before these notes are before the readers of THE GARDEN, many of the flowers will be expanded, and the show will be a brave one, for there are hundreds of spikes of this Lily alone. Nothing can possibly be more gratifying than to see broad-telling masses of these finer Lillies well established, and flourishing as they are here, growing and spreading from year to year in the most encouraging fashion. Indeed this “Panther Lily,” as *L. pardalinum* is called, is among the most satisfactory to grow for many reasons, and none more so than for its fine ro-

bust constitution and perennial vigour. It is sometimes thought, and in truth stated, that Lillies object to manure. This depends, however, entirely upon the Lily itself, and equally so how the manure is applied. For such as imported auratum, also Kramer, and some others I would avoid manure, at the same time I would not hesitate to employ it rather freely to this Panther kind, to almost all the speciosum section, to Martagon, and abundantly to giganteum, *L. candidum* and all such must be made content without.

Such fine clumps as are here could not exist but for an equally proportionate mass of healthy roots below, and under the circumstances, seeing they are not the sole occupants of the place, exhaustion must sooner or later ensue. As I have said, there are many clumps of this Lily alone disposed on either side the broad pathway and on all sides of the beds. Already some of the earliest *L. auratum* are in flower, and a large store of buds promises a fine display of this alone, its fragrance demanding attention for it even when not seen. Some very large beds are devoted to the Orange Lily (*L. croceum*), the plants springing from dwarf bushes of *Berberis buxifolia*. This variety is present in great numbers, and is making a really fine display of the brightest orange, and not quite 3 feet high. Two other immense beds near the large Palm house have been aglow with purple Foxgloves and *Lilium candidum*, all springing from a ground of Box trees. At a little distance the effect is very good, while a close inspection reveals large clumps of Galtonia that will continue the display here. Perhaps one of the most valuable Lilies just at this point is *Lilium odorum japonicum*, each stem producing two and three flowers each. The plants are about 2½ feet high, and would appear to be producing two and sometimes three stems from a bulb, unless in the original planting the bulbs were arranged closely. Be this as it may, the groups now at their best have a rare display of the flowers of this noble Lily, the flowers of large size, and some two or three dozen blossoms in each bed. Nearly white externally, and more or less flushed with purple internally, the long slightly drooping flowers are handsome in the extreme. In another group a fine effect is produced with the snowy blooms of the Madonna Lily springing from a close-growing, small-leaved Holly, the blossoms of the former appearing even purer and whiter above the dark sombre hue of the evergreen. In many other positions is this fine old garden Lily seen to advantage, though none more so than where, quite near to the No. 4 range of greenhouses, they appear freely among purple nut bushes, with *Acer palmatum*, *Prunus cerasifera* atra-purpurea, and the bronze-tinted plumes of the Sumach (*Rhus Cotinus*). In all these the Lilies form a pleasing and striking picture. Very fine too, is a large bed filled with *Lilium testaceum* with lofty stems crowned with blossom, but in this case I fail to admire the groundwork, consisting of mixed and sometimes gaudy Poppies. In another position making splendid headway, and the largest already about 9 feet high is *Lilium Henryi*, with an almost endless succession of flower buds, many being quite prominent. I counted at least a score of its stems, the majority being very robust and strong; these when fully developed will in themselves make a good display.

Such are a few of the earlier kinds that are here employed in great numbers, and existing as they do in the majority of instances in large permanent groups, are among the most effective things in these gardens.—E. J.

DAY LILIES.

THE accompanying illustration of *Hemerocallis aurantiaca major*—a recent introduction, and the largest flowered of all the Day Lilies—gives a good idea of the value of this fine plant for ornamental purposes. The culture of Day Lilies is extremely simple, for, provided a good and moderately rich root-run is afforded them and the situation is tolerably moist, the plants will flourish to perfection and increase in size year by year. When the clumps become very large, it is advisable to divide and replant. Grown by water the Day Lilies are particularly effective, and even when not in flower the drooping leaves have fine form and soft green colouring to recommend them. Although the individual flowers are very evanescent, the spikes of sweetly-scented blossoms are valuable for indoor decoration, for as soon as one bloom

brown flower-heads rising among the dazzling spires of the Madonna Lily—a sight which towards the end of June may be seen in many a cottage garden—is one that is not soon forgotten. In the wild garden this Day Lily is also at home, and is well calculated to hold its own against encroachment. *H. Kwanse foliis variegatis* is a most ornamental plant, growing almost as strongly as the last-mentioned variety, with flowers of very similar tint. Its chief beauty lies in its variegated foliage, which is plentifully striped with white, some leaves, indeed, being almost entirely white with narrow stripes of green. In different plants the variegation varies considerably, some showing but few white markings. This variation is also noticeable when a large clump is divided and replanted in different situations, the newly-made plants after a year or so affording very

such simple, though abundantly useful material.—R.

Herniaria glabra aurea.—What a charming little plant this is when growing in a natural way, so that the growth extends irregularly over rough stones or rootwork. Broad patches look well in conjunction with *Mesembryanthemums* and *Thrifts*, these dwarf-growing plants having a subdued and quiet appearance that helps to set off the more showy *Delphiniums* or other tall-growing subjects. This variety is exactly similar in habit to the typical *H. glabra*, but the foliage is distinctly marked with yellow. Besides the natural appearance created by planting near large stones, the latter help greatly to conserve the moisture about the roots—a great advantage with small plants of this kind.

Begonias.—The Begonia is one of the few plants that absolutely refuse to grow with me in a season like the present unless it gets a good thick surface mulching, and on comparing notes with fellow gardeners that have a similar soil to contend with, I find their experience is exactly similar. In the years 1893 and 1896 if two beds of Begonias were planted with nice stony stuff, say a little over a foot apart, at the end of May and one of the beds received a mulching and the other not, it is not too much to say that at the present date (July 2) the mulched bed will be fully furnished, whilst in the other the plants will be barely existing, certainly no larger than when they were put out. The materials of which the mulch is composed matters little whether spent Mushroom or peat Moss manure, leaf soil, or coco fibre, the great thing is to put something on directly, and if the ground is dry, to give a thorough soaking. The mulch keeps the soil moist about the plants, the surface roots are retained and get a fair start instead of practically drying up, and the help thus afforded the plants in the young stage is of immense value towards furnishing the beds quickly. Of course where the Begonias are planted thinly on a dwarf undergrowth, the latter, if set thickly, answers to a great extent the purpose of a mulch.—E. BURRELL.

CARNATIONS.

I THOUGHT lately when looking at the flowers on a bed of mixed Carnations that the bed in question was likely to be one of the best we shall have all through the summer. This mixture of plants is naturally hardy to be recommended if they have to be layered, as it necessitates a lot of labelling, and even then one cannot always keep them true, but if to secure the stock sufficient numbers of each variety are planted elsewhere, there is nothing for *bold fide* flower garden work better than a judicious mixture, and the colouring in the majority of border Carnations is of such a nature that one can hardly make a mistake.

Exception is taken sometimes to the term "border" Carnations. Why? It seems to me rather an apt term to apply to true hardy sorts as opposed to many that are raised annually and sent out without first trying them from a constitutional standpoint, and that will not survive the first winter. My plants always go out about the second week in October, and consequently have to take their chance of the weather. Last winter not a plant was lost, and in 1895 not more than three per cent. This was sufficient proof of the hardiness of the sorts employed, the glass in the early part of that year dropping down close to zero on several occasions. The varieties now in flower or fast coming out are *C. C. P.*, *P. Murillo*, *Ruby*, *White Clove*, *Mrs. R. Hole*, *Patron Rose*, *Sir Beauchamp*, *Seymour Goldfinch*, *Canary*, *Reindeer*, and *Uriah Pilk*. All with the exception of the last named, that was not outside at the time, came safely through the winter of 1895. I shall be glad to know the names of any thoroughly hardy sorts that are an improvement on those above named. A variety, for instance, is recommended by one or two correspondents as decidedly superior to *Mrs. R. Hole*. Is this as hardy and vigorous as the



Hemerocallis aurantiaca major. From a photograph sent by Messrs. Wallace & Co., Colchester.

winters another opens to take its place. The most general favourite is the yellow Day Lily (*H. flava*), the clear coloured flowers being at their best at the end of May and commencement of June. The habit of this variety is not so robust as that of some others, and on this account care should be taken that it is not unduly crowded by neighbouring plants of stronger growth. *H. dumortieri* (sometimes known as *H. rutilans* and *H. Sieboldii*) produces flowers of an orange-yellow shade, to which those of *H. Middendorffiana* are very similar. The copper Day Lily (*H. fulva*) is a vigorous grower, and in favourable positions throws up flower-stems to a height of 3 feet, which often carry as many as twenty blooms. The blossoms are of a dark fawn colour, and, associated with white flowers, are exceedingly attractive. In the Isle of Wight this Day Lily is grown in quantity, and the

diverse markings. *H. aurantiaca major* (figured and fully described in THE GARDEN of November 23, 1895, p. 400) is the largest and tallest of the Day Lilies, and when generally known will doubtless find a place in the gardens of most lovers of hardy flowers. S. W. F.

A pretty combination.—When looking through a villa garden in one of the suburbs of Bristol recently I was struck by a very happy combination of creepers. A plant of *Cupressus* about 10 feet high on the lawn had died, and the owner had planted *Tropaeolum minus* and a small *Eccremocarpus* *ruber* at the foot of it. These had mounted quite to the top, and the long, bright red, tendril-like blossoms of the *Eccremocarpus*, hanging down from the green and yellow ground made by the *Tropaeolum*, were extremely pretty. How often an unsightly object may be made beautiful by a little foresight even with

latter won variety, and if so, where can it be obtained? I am unable to find it in any catalogue at hand. The splitting propensities of the well-known scarlet flower are not very much noticed, I warrant nearly all the flowers in a cut state, and they are taken before the bloom begins to drop. The new scarlets, too, are very lovely flowers, but will they stand the winter without protection?

The vigour of flower-stems and grass is somewhat surprising when one remembers that right away through the season the plants have had so little moisture, even on a dry sloping bank, and in rather poor soil they are looking remarkably well; the thick mulch put on when they were planted is in a great measure answerable for their present form. The exception is Ketton Rose, which looks anything but well, and the few flowers already out are poor both in size and quality. The continued dry weather is answerable for a visitation of thrips. I noticed some white spots on the crimson and scarlets, and a closer inspection showed the presence of the insect in large numbers. One can do little with them after the expansion of the flowers; a thorough good soaking once or twice alike of bed and foliage prior to this is, however, calculated to keep them in check.

E. BURRILL.

A distinct Lily (*Lilium testaceum*)—From the uncommon tint of its blossoms this Lily attracts quite as much attention as any other member of the genus now in bloom, for the flowers are of a peculiar shade of nankin or buff, which is but little represented not only among Liliums, but in the case of flowers in general. It is a hybrid between the Madonna Lily (*Lilium candidum*) and the scarlet Turk's-cap (*L. chalcodonicum*), and while in some features showing a leaning towards the former and in others to the second, it is in some respects about midway between the two. The segments of this Lily are a great deal reflexed, nearly as much as in the Turk's-cap section, while they are borne in a somewhat open head, each blossom being disposed horizontally or nearly so. Against the singular tint of the flower the bright orange-red anthers stand out very conspicuously. The blossoms possess a strong fragrance. The blossoms of this Lily expand about ten days later than those of *L. candidum*. The height varies to a certain extent according to the situation and other particulars, but where well established and under favourable conditions it will run up from 5 feet to 7 feet in height. These tall stately stems enable the beauty of the blossoms to be well seen, for being borne in a horizontal manner, the prominent features are more discernible when thus elevated than they would be on short stems. This Lily starts into growth early, and just when about ground it might readily be mistaken for *L. candidum*, but it does not push up radial leaves in the autumn, as in the case of the Madonna Lily. Still it is second only to *L. candidum* in putting on an appearance in early spring, the Japanese *L. Hansoni* treading closely on its heels. It is cultivated very successfully by some of the Dutch growers, from whom most of the bulbs planted in this country are received. Besides the specific name of *testaceum* it is also known as *excellens*, *peregrinum*, and *laevigatum*. Though the young foliage is very delicate, it is seldom injured by spring frosts or cutting winds.—H. P.

Sweet Peas.—Complaints are general with respect to the somewhat premature blooming of these beautiful flowers, due, of course, to the unusual heat and drought which have prevailed. June, beyond being such a very dry month, has been one of the warmest months we have had for some years, and such a heat as that naturally resulted has not been conducive to Sweet Pea growth. Even where there is liberal watering, with occasional overhead sprinklings, still it seems impossible to fully counteract the effects of such a dry atmosphere. But now that the air is cooler and likely to be damper, it may be worth while to at once cut over the plants, so far sacrificing all the present bloom, give a liberal

sousing of manure water, and see whether it be not possible to induce a new break of growth and later of bloom. Relieved of their flowers, no doubt the plants would then make strong growth, fill up their supports, and bloom profusely in the autumn. Where, in view of the probable short duration of bloom on spring-sown plants, a quantity of 5-inch pots had early in June been filled with soil and sown thinly with Sweet Pea seeds, they might have been ready now to turn out, and being liberally watered and in good soil, might be expected to bloom nicely in September and October. Such autumn blooming would largely compensate for the short flowering season found now. It seems still an old tendency to sow Sweet Peas as with crooking Peas, far too thickly as stated above. Few plants have to grow crowded and under more adverse conditions; few are less able to show their real characteristics under such treatment. If we made it the rule to sow Sweet Peas from 2 inches to 3 inches apart in rows or clumps, and cooking Peas of all descriptions, especially strong growers, from 4 inches to 6 inches apart, we should invariably get from them far better results. Of both kinds of Peas many sowings have been failures this dry season, because the plants are so crowded.—A. D.

BIENNIAL STOCKS.

ALTHOUGH we have now in commerce such very fine and beautiful summer Stocks as well as intermediate kinds, there can be no doubt that the old biennial forms are still very popular, and are also when good very beautiful. The cultivation of these fine Stocks seems of late to have been much neglected, or else the plants have occasionally suffered so much from hard weather, that many have given up their culture in despair. Yet there are some to be seen just now here and there in gardens, especially in cottage gardens, of both the Giant Brompton and The Queen or dwarf branching Stocks, and they present when well grown not only great floral beauty, but also perfume in rich profusion. But of these old varieties there have come strains of such singleness, that hardly a double can be found amongst hundreds of plants. I saw but the other day quite a big lot of the Scarlet Brompton in a Middlesex seed trial ground, every plant having single flowers. I naturally wondered why so useful a Stock should be preserved, as it is in a garden, and quite out of place. Elsewhere the Giant Brompton is seen in its very best double form, still the proportion of singles is fully as two to one, but that is for the variety a very fair average. Generally not nearly so many doubles now are seen, and the scarlet seems rapidly following in the track of the grand Giant White Brompton. I used to grow several years since, but which in time became entirely single, and in spite of the efforts made in saving seed specially from plants that had five and six-petalled flowers, yet not a double came. I fear now that the strain has become worthless, if not entirely lost. The Giant Cape or Emperor Stocks found in gardens, though very good, are not the Bromptons of old, neither do they seem to have very high class double qualities, as singles seem even in their case to very largely predominate. Putting these out of the question, and reverting to the old Brompton and Queen forms, I have wondered whether the injury done through several successive winters to the plants, in destroying so many and weakening the constitutions of those which remained, has had anything to do with this reversion to single forms. It is difficult to understand what process in plant life must take place to produce double flowers. Ordinarily they are terms of abomination, though occasionally still capable of plant reproduction. In the case of the Stock that is not so, because the double flowers are after all but floral branches, petals having superseded leaves, and there are no floral organs whatever. It was ignorance of this fact which induced an old cottager, in whose garden I was recently looking at some fine Stocks, to say that he pulled out all his singles except those close by a double one, believing that through

this intimate connection the single flowers became pollinated from the doubles. I did not attempt to disenchant him out of his comfortable belief. It would probably have been argument wasted. The decadence in double production found in the Queen Stocks is the more remarkable because these used to produce so large a proportion of doubles, especially the purple, locally known as Twickenham Purple, which has given as many as 80 per cent. of doubles. The scarlet and the white were always less common and produced more singles. Good stocks of these are very rare, certainly, and in spite of the defects mentioned, we have seen spring-flowering Stocks in much greater abundance this year than has been the case for several seasons, and of course due to the mildness of the winter. That fact should encourage efforts to get back to gardens these charming old favourites.

It is just a little late, perhaps, to sow seed outdoors, but not too late if done at once. Very gross or strong plants may suffer through frost, but then only strong plants will give those noble spikes of bloom, reaching up to some 30 inches in height, which Brompton Stocks can give under favourable conditions, or big bush plants of the Queen that are so attractive and so delicious when in bloom. It is one of the great properties of the Stock to be always sweetly perfumed, even though the flowers may, as in the doubles, have no reproductive organs. Wherein the perfume lies secreted in such case, except it be in the petals, does not seem to be known. The best positions for wintering these biennial Stocks outdoors undoubtedly are where the soil is fairly porous and shelter, whether of wall, hedge, or trees, is furnished. The market growers have found planting beneath their overhanging fruit trees to be useful, even there, if the ground has been disturbed and the winter is severe, plants have been killed wholesale. Very probably the introduction of such very fine intermediate, pyramidal and Ten-week Stocks for summer and autumn blooming, forms now found in every garden and usually giving a very high percentage of doubles, has had something to do with the comparative neglect of the biennial forms. Such a giant branching Ten-week, for instance, as the variety known as Princess Alice, balsamifera, and many other appellations, with its pure white bloom and great proportion of doubles, is a most attractive variety and merits universal culture. Still, I plead for the preservation of our old garden Stocks.

A. D.

Raising the Tufted Pansy.—The first time we began specially to hybridise the wild mountain Violets with the view of raising more useful varieties for the flower garden was in 1863, and some of the first were rayless, and it was only afterwards when greater size was considered an advantage that those small rayless varieties were lost sight of for a time. Not only for raising Tufted Pansies, but also for show and fancies we never trusted to seed saved from plants which had been left to insects to cross, but we invariably crossed them carefully, choosing the pollen from the flowers possessing qualities in which the seed-bearing parent was deficient. Thirty years ago we collected plants of *V. amara* on the hills near Moffat, in Dumfriesshire, and cultivated it in order to try to prolong its season of flower, and we also crossed it with show Pansies so as to get more size and substance into the flower. These first attempts were so successful, that we continued to cross the improved results, and found that while the plants retained their branching tufted habit the flowers were produced in greater abundance through the whole season, and the thicker and stouter texture of the flowers enabled them to feel perfectly independent of weather. The other species we crossed were *V. montana*, got also from Dumfriesshire hills; *V. lutea*, which we got growing wild in Fife, and from this we got fine seedlings, such as Dickson's Golden Gem, Grievei, pallida, and many others. We also got beautiful crosses from *V. stricta*, an Indian species. The crosses from this were quite distinct from all the others in having stiff stalks,

keeping the blooms clear of the plant, and also in having thick waxy flowers. *Spiraea alba*, *s. aurea*, *Cygnus*, *Ariel*, *Eva*, &c., show the character of the seed-bearing parent; *spiraea* very clearly. *Glow*, *Peach*, *Blossom*, *Rufus*, and others with shades of carmine and crimson we got by using the pollen from fine varieties of fancy Pansies.—*DICKSONS & CO., Edinburgh.*

STOVE AND GREENHOUSE.

SOLANUM JASMINOIDES.

Though hardy in a few of the more favoured districts of this country, this *Solanum* does best in the greenhouse. One thing in its favour is

a small house, its sprays of white flowers having a graceful, drooping habit, and it is a most profuse bloomer. It is, however, very subject to the attacks of green fly—at least, when grown under glass, for though usually so grown, it is hardy in mild localities, as I have seen it at Bray, Co. Wicklow, flourishing out-of-doors against a south wall and flowering freely.

all is the Screw Pine, with a thick sort of woody Pine-apple of a stem and a tuft of Palm-like leaves at the top. Maples, Plums, and various conifers, especially the common Japan Pine (*densiflora*, I believe), are much used. The trees, though not exceeding a foot or two inches high, have the look of great age with gnarled twisted stems. Some kinds of Azaleas you see too, but they are not so popular. Occasionally you see a squat shallow pot with sand and pebbles and little baby Pines in clusters, just as the seedlings look near the shore, or the same shaped pot with a grove of Bamboos about 9 inches high. The idea of the culture seems to be to imitate in miniature some large effect of Nature. There are, generally speaking, no greenhouses or orangeries or cellars, any necessary protection seems to be given by screens and shadings of Bamboo and straw (dried bundles of *Eulalia japonica*); they are not forced, but flower at their natural seasons. These are just the memories of what I casually noted, and it is now four years ago, so that I have naturally forgotten some details. When I went to the Chrysanthemum shows at Dangozaka I collected the bills of the nurserymen (sort of illustrated sheets as a programme of what was to be seen inside), and on many of them there are suggestive drawings of trees in pots."



Solanum jasminoides. From a photograph sent by Col. Kelsall, Dublin.

that when grown as a roof or rafter plant, the foliage not being dense, the light is in no way obstructed, a desirable feature in a climbing plant. Planted out in a bed of good rich loam and given plenty of head room, it may be had in flower for six months at a time, and by pinching it can be had in flower at Christmas, when its pure white flowers will be found valuable for cutting, being light and elegant in appearance. Under glass, especially when shaded, the flowers are pure white, but outdoors they are often tinged with bluish tinge.

Col. Kelsall, who sent the photo from which the illustration was prepared, writes as follows:—

"This pretty creeper is very suitable for a cool greenhouse, provided it is kept within bounds. It is a rampant grower, and soon covers the roof of

in a clear light. It is easily grown in a green-house temperature, requiring a free root run and substantial compost. If cultivated in pots a little of the surface soil must be removed yearly, substituting fresh loam and a little of some approved fertiliser.

Pot plants in Japan.—Kindly replying to a question of ours as to the use of pot plants for rooms in Japan, Mr. Alfred Parson writes:—"They grow these pot trees very largely, as indeed do all the native nurserymen, and I saw great numbers when I was painting the Chrysanthemum show in their grounds. The trees are not grown usually for outdoor decoration like the Pomegranates and Oleanders in France and Italy, but are kept very small for indoor use. The pots in which they are grown are of ornamental porcelain, sometimes a plain colour like "celadon," more often white and blue. The commonest of

PRIMULAS.

WHERE many of these are grown the earliest sown batch will have been potted off, the main batch of plants resulting from a secondary sowing being still in the boxes or pans in which they were pricked out early in June. These will now require attention as from such plants, which will flower during November and December, far better trusses of bloom may be expected than from either the earlier or later flowering lots. Some gardeners in order to secure flowers in February and March continue to pinch out the bloom-stems from the time they show in autumn until the new year, but although good stocky plants may be obtained in this way the individual trusses are much inferior to those from plants which have never been pinched at all. Primulas are much like Stocks in this respect; pinch out the first formed or central trusses and you may get side ones in quantity, but individually they will be poor. I would much prefer sowing later, say in the early part of June, growing the plants on and flowering them in $4\frac{1}{2}$ -inch pots. Primulas do best in a fairly light fibrous loam, which has lain for some time and been turned over several times during frost. It must be free from wireworm, as these pests quickly bore through the base of the crown and ruin the plants. A sixth part leaf-mould and sufficient sand or grit to keep the compost open should also be added. Although requiring a certain amount of shade, I do not hold with the old practice of growing the plants behind a north wall, preferring south aspect and whitening the light over with lead protection from excessive sun heat. Primulas will stand and even enjoy more sun heat than many are aware of, most of the plants for seed in nurseries being grown in low span-roofed houses with the roof-glass whitened over. The finest lot of November-blooming Primulas I ever saw was grown in frames facing south, duly shaded, the lights being shut down tolerably early in the afternoon through July, August and September and the plants freely syringed. A good Primula grower of my acquaintance attributed much of his success to the use of pigeon's manure in the soil, this being employed at the rate of about an 8-inch potful to a barrowload of soil. Good leaf-soil made from Oak and Beech he also valued. The manure was added when in a dry, powdered state, and had, he thought, the same effect as guano, which is very seldom obtained in a pure state now-a-days.

The old plan of potting Primulas with the crowns elevated, thereby necessitating the use of small wooden pegs to prevent the plant from swaying about has happily now become extinct. Its advantages were more imaginary than real, lowering the ball as in the case of ordinary soft-

wooded plants and making the soil tolerably firm around the crowns being attended with little danger from damping; provided ordinary care is taken in watering. The young plants may be kept in a frame from July onwards, and if the early closing and spraying system above referred to is adopted, a little air may be given in the evening and left on all night. Primulas, if in a healthy state, are seldom attacked by insects, although if in dry, arid quarters green fly will sometimes appear. As a rule, by the second week in October, those intended for blooming in November and December, will need removing to a greenhouse, as damp during the night is apt to injure the earliest trusses. A light, cool structure free from aridity suits them best.

J. CRAWFORD.

Rhododendron Falconeri.—The recent note in THE GARDEN on this Rhododendron recalls the fact that, as far as foliage is concerned, seedlings vary a good deal. My plants, the produce of a single pot, are not large enough to flower, but there is a good deal of difference in the quantity and colour of the tomentum with which the undersides of the leaves are clothed, and the leaves themselves in some cases differ a little in shape.—T.

Rhodanthe Mangesi in pots.—At one time the Rhodantes were considered to be difficult plants to cultivate, but now-a-days they are brought into Covent Garden Market in considerable numbers, and are very commonly seen on the costermongers' barrows in the streets of London. The plants are crowded together in 5-inch pots, and are of course a dense mass of bloom. The flowers are extremely pretty in a cut state, and from their everlasting character they may be dried and kept for a long time. Where they are required for cutting alone, however, it is not at all necessary to sow them in pots, or indeed under glass at all, but they may be sown in drills in the open ground, and where the conditions are at all favourable satisfactory results may be depended upon. Too much moisture is injurious to their welfare, and on the other hand, if too hot and dry, they will not thrive. The middle of April, or in some districts a little later, is a very suitable time to sow the seed, which, when the plants are required only for cutting, may for convenience sake be sown in drills about 15 inches apart. There are several forms in cultivation, but for general purposes I prefer the ordinary R. Mangesi and its white-flowered variety to any others.—H. P.

Rhododendron Maddenii.—Treated as a greenhouse shrub, this Rhododendron has now (June 27) a few buds still to open, so that it may safely be regarded as the last to flower of all the Himalayan Rhododendrons. Like most of the others, this Rhododendron varies somewhat when raised from seed, hence it possesses quite a long list of synonyms, for I have met with it under the specific names of Jenkinsii, virginiae, tubulatum and calophyllum, as well as Maddenii. The form generally regarded as calophyllum has broader leaves and rather shorter tubes than the others, but it is really only a seminal variation, as seedlings raised therefore do not all remain true to this character. R. Maddenii forms a freely branched, but somewhat loose-growing bush clothed with oblong, lanceolate leaves, deep green above and thickly studded with ferruginous scales underneath. The flowers are not borne in close compact trusses, as in many of these Himalayan Rhododendrons, but are produced in loose heads with, as a rule, not more than half a dozen flowers in a cluster, while there are frequently four or five inches long and as much across the mouth when expanded, the colour being pure white, but in the bud state they are often tinged with purple, which, however, completely disappears on expansion. This Rhododendron when raised from seed will flower in less time and in a smaller state than the majority of the Himalayan Rhododendrons, for I have some three-year old plants, in

most cases about 18 inches high, which are flowering this year. The plants vary somewhat in habit, but in many instances they run up straight with a single stem to 1 foot or 1½ feet in height, the outer bark in many instances peeling off from the lower part of the stem after the manner of *Arbutus Andromedifolia*. Several of the plants have pushed out buds from the otherwise bare stem, and promise now to make neat little bushes. R. Maddenii is one of the tenderest of all the Himalayan Rhododendrons.—H. P.

EUCHARIS FAILURE.

I AM sending you some bulbs of Eucharis amazonica, and shall be grateful if you can tell the cause of their bad health. They used to grow and flower luxuriantly here, but began to fail about three years ago, and since have been going from bad to worse. I have had them shaken out and the bulbs carefully washed and repotted in good gritty loam and a little peat, and kept shaded in a moderately warm house. I have had no experience with the Eucharis mite, but if this is a case of it I will throw the whole lot away, unless you can recommend any other course.—W. S.

* There are traces of the dreaded Eucharis mite in the bulbs sent, but not enough to convince me that the trouble is due to that insect, or to their agency. In all probability they may have had little or nothing to do with the change from extra good health to the miserable plight the plants are now in; at any rate I have had Eucharis bulbs showing more traces of the mite about both the bulbs and the roots and yet showing no signs of bad health in either the foliage or flower. Whether or not the mite is to blame for the numerous failures will always be a vexed question, for we are likely to be constantly attempting the growth of this class of plants, and the insects to which they afford a home will be equally as likely to be always with us.

“W. S.” forgot to say if there was a change of treatment at or about the time his Eucharises began to fail. I have known instances where the trouble with these beautiful plants dated from the time a fresh foreman or a new gardener came on the scene or a change of treatment of some kind was inaugurated. Some men are not content to “let well alone,” but must be constantly repotting, drying off, unduly exciting, or otherwise tampering with the pots of bulbs under their charge. If they find them in a bad plight, the leaves being of a sickly yellow colour, the bulb tumbling out of the soil, and no healthy roots to be found, then it is to the mind of the cultivator what is done towards restoring the plants to a better condition. They ought to be shaken clear of the soil, have their leaves cut off, and if the mite is believed to be the cause of all the trouble, roughly skin the bulb, and then immerse them in clear water for two or three days. There is no necessity to use any strong insecticides, the clear water smothering the insects without injuring the bulbs. Many cultivators err in not cutting off the leaves before repotting shaken out Eucharis bulbs, and that whether there are mites in the bulbs or not. When the leaves are left intact the stored up food in the bulbs goes to their support, and root action is paralyzed; whereas it is fresh roots that ought first to be made and the leaves will develop in due course, a well balanced start resulting. When the leaves are left entire, and perhaps larger pots than desirable are used, the fresh soil is liable to become soured and distasteful to the roots, and they fail to long survive in it accordingly, so that when next they are again repotted the bulbs make a more feeble start than before—they have gone from bad to worse. Small bulbs start best in small pots, about three in a 4-inch, the same number of medium-sized ones in a 5-inch pot, and three of the largest in a 6-inch pot. Greater liberties are doubtless taken with a healthy stock of bulbs, but it is this previous immunity from failure that makes us reckless, and sooner or later the consequence of giving too much soil at one time leads to a partial or complete failure. I

must not omit mentioning what may be considered suitable soil for Eucharises. The orthodox mixture is “two parts rich loam to one of leaf-mould and manure, with the addition of charcoal to keep it open.” If I could get it, my mixture would be brown fibrous loam, two parts, good leaf soil, one part, with charcoal, sharp sand, and a sprinkling of soot added, but I am obliged to be content with yellow loam without fibre (a soil that has previously good Potash) and peat in the place of leaf soil, as the latter cannot be had good. As a matter of fact, the Eucharis is not very fastidious as to soil, always provided it is sweet, and manure is best left out. It can be supplied when the pots are filled with roots. The drainage ought to be perfect, covering the crocks with Moss, especially if fibreless loam is used, and the bulbs should only have their necks above the soil, bedding them firmly with sand to rest on.

POSITION FOR THE PLANTS.

Where to grow Eucharises satisfactorily is the point. Most hinges on that till any other cultural detail. It would really appear that it is more a question of suitable houses than of men to attend them. In one large garden that is particularly well managed, this class of plants has been tried in seven different houses and can only be grown properly in one. A nurseryman of my acquaintance who must have Eucharises nearly all the year round has tried them in nearer twenty houses, and after repeated failures, this meaning a serious loss to him, has only recently found the right place for them. Practical gardeners who have prided themselves in their ability to grow Eucharises and Pancratiums to their own and everybody else's satisfaction have yet, after a change of situation, been obliged to confess to repeated failures. It is the modern house, with its maximum amount of glass and minimum quantity of wood, that appears to most often disagree with Eucharises. Extremes of temperature, excessive sunshine, and too little humidity in the atmosphere are conditions more or less injurious to them. They must be constantly shaded from strong sunshine, and the healthiest and most profitable batch I have ever seen was never moved from the northern half of a spanned structure running from east to west. Mine have always done well under a lean-to roof facing nearly south, but this is covered with Stephanotis and I am sure run down in bright sunnyish days. In some houses it would appear next to impossible to make a mistake with Eucharises, and the old-fashioned, tumble-down sort of places is just what they like. Ordinary stove temperature, or figures ranging from 60° to 65° and 70° during the cooler parts of the year, increasing from 5° to 10° all round in the summer, 80° with shade and 90° for an hour or two after closing the house in the afternoon benefiting rather than injuring them. There ought to be abundance of moisture maintained in the atmosphere to counteract the parching influences of either strong fire-heat or sunshine. Overhead syringing—at least twice on hot days—is desirable, the walls and floors also being damped down.

Plunging the pots containing newly-potted bulbs in a brisk and moist bottom-heat favours early and strong rooting, but, as a rule, it is best not to plunge Eucharises. When plunged, more than ordinary judgment has to be exercised in watering them, and if the plunging material is preserved after it has become rotten, a mistake is made. If a staging is formed over hot-water pipes, cover this with slates and ashes or rough timber trimmings may be used, on these placing clinkers and ashes. Set the pots on the ashes, every plant clear of its neighbour, and this will admit of the pots being tested in the ordinary way by those who attend to the watering, and favour the formation of sturdy leaves. The ashes should be kept moist by frequently syringing among the pots.

When the smaller pots are well filled with roots, a shift into larger sizes should be given, and large specimens, if desired, can gradually be built up in that way, but when they are well established

in sizes varying from 3 inches to 12 inches in diameter, it is well to cease repotting annually. They will stand admirably in the same pot for three or four years in succession, which is surprising, if liquid manure, notably soot water, is applied frequently during the greater part of the year. A portion of them may be shaken out, divided and repotted occasionally. Where there is a good batch of root bound plants, it is not often that no flowers are to be seen on them, but if wanted in quantity at any particular time, then they may be slightly rested after their youngest leaves are well matured; a sudden excitement or rise in the temperature quickly brings up the flower-scapes freely.

Resting and drying off are details too rigidly carried out and in some cases have, probably enough, been the beginning of the end. Submitting Eucharis to a greenhouse temperature, drying them off similarly, but keeping them much cooler than formerly without lessening the supply would be a greater blunder. As I have previously tried to prove, shifting Eucharis from one house to another or from houses to pits is a wrong proceeding, that is, if doing well where they are. Let the resting take the form of lowering the temperature 5° to 10° all round, and at the same time give enough water to keep the plants from flagging. Three weeks or a month of this treatment is usually quite sufficient.

Insect pests—such as the mite, to be reckoned with are thrips and mealy bug. There must be no employment of insecticides strong enough to destroy either of these by dipping or sponging as the succulent, porous, Eucharis leaves are very susceptible of injury, and numerous stocks of plants have been ruined for a time, at any rate, owing to reckless though well meant efforts to get rid of mealy bug in particular. Fumigations with tobacco paper, sheets or preparations, will get rid of thrips, and sponging with soapy water ought to be equal to clearing of mealy bug. If a fresh start is made with bug-infested plants, cutting off the leaves when the bulbs are repotted is a safe and effective remedy.

"W. S." after reading the foregoing may feel disposed once more to try his Eucharis before throwing the whole lot away. None of the bulbs sent are approaching what may be termed full size.

W. I.

Potting off cuttings.—In "E. J.'s" note on Carnation Miss Jolliffe (page 484), the evil effects of allowing the cuttings to remain too long after they are struck before putting them off is there dwelt upon, and this is a caution certainly well needed, not only in the case of Carnations, but with all classes of plants, for instances frequently come under my observation where cuttings are allowed to stand so long after they are struck that the roots are interlaced with each other, and many of the fibres are injured in disentangling them, so that the young plants suffer from check. "E. J." points out that the best time to pot off Carnation cuttings is when the new roots are about an inch long, and in a general way this may be regarded as applicable to nearly all classes of plants, as roots of this length are not matted together, and they can consequently be separated without injury, besides which they are then so active as to at once take hold of the new soil and grow away without check. In the case of most cuttings, more particularly where the plants are somewhat delicate in constitution, the soil employed for the first potting should be of a lighter and more open nature than that required for tree specimens of the same thing. A rather closer atmosphere and an occasional dousing overhand will, in the case of most cuttings just potted off, greatly assist activity at the roots.—H. P.

Cyclamen.—These, whether old plants partly dried off and repotted after starting into growth again, or young stock raised from seed sown in heat in August, will now be occupying frames. My plants were placed in a frame last week, having up to that date had a shady position in a mid-season Peach house from the time they were potted into 6-inch pots. The frame faces the

south and the light is thinly coated over with shading. I find this suits the plants better than the due north aspect, as the plants are less liable to drying out of the leaves, and do not flag so much when placed in an open frame in October; moreover, the foliage is harder and the leaf-stalks shorter. I do not believe in stimulants for Cyclamens at this time of the year, as the roots are very delicate and susceptible of injury, which is evident from the sudden collapse of plants sometimes. Great care is necessary in watering each plant, examining individually every morning, care being taken not to let the water come into contact with the crowns, this being liable to cause decay. Plenty of air is requisite, and I find, as a rule, it is safer not to syringe the foliage. If a slight fumigation is given twice during the summer months, green fly and thrips are kept at bay. As growth increases give the plants more room to ensure a free circulation of air amongst them. In potting I like to sink the bulb tolerably deep, as it generally works up again in growing. Always fumigate immediately before removing the plants from the frame to the greenhouse in autumn.—J. C.

ALLAMANDAS.

ALLAMANDAS are amongst the most beautiful of stove-climbing plants, well repaying any extra pains which may be bestowed on their culture. Their noble foliage, combined with the size and richness of the flowers, renders them indispensable wherever stove plants are grown. Moreover, although naturally of a climbing habit of growth, they may, if the growths are pinched, be grown in bush form, and prove most useful for conservatory or ordinary decoration. They are most at home when planted out at the end of a warm, moist stove, and the shoots trained along wires tolerably close to the roof glass, and unshaded. Allamandas will stand as much sun as Crotons, the leaves seldom scorching if the glass is of good quality. When shaded—as they sometimes have to be on account of other subjects which occupy the same house—the new shoots are long-jointed and soft, and bloom correspondingly scarce. Allamandas bearing gross feeders, a good holding loam, with a fair addition of decayed manure, is the best rooting medium; liquid manure of medium strength being necessary every other day in the case of large specimens in pots. When grown on balloon trellises for exhibition, the best plan is to stand the plants in a light, roomy place, and to allow the growth full liberty until the bloom buds form, when it should be trained evenly over the surface. Although Allamandas may be propagated at any time when young shoots are obtainable, the best time is in spring, the plants then having an opportunity of growing into good-sized specimens the first summer. The cuttings strike most readily inserted singly in small pots in finely-sifted loam, leaf-mould and silver sand, and placed under a handlight or bell-glass in a gentle bottom-heat. When rooted, gradually inure them to more light and air and give a shift into 6-inch pots. A night temperature of 70°, with a rise of 10° or 15° by sunheat, will suit them well, closing early and syringing overhead each afternoon. The points of the shoots must be pinched out to induce the lower eyes to break. By the end of June these pots will be filled with roots, and a shift into others 2 inches or 3 inches larger will be necessary, this time breaking the soil into pieces the size of Walnuts and potting firmly. A few neat sticks will now be needed to support the shoots, which may again be pinched for the last time. The same treatment as regards heat, air, and moisture should be continued till the end of September, when less water must be given, and in October none given until the foliage shows

signs of flagging. By the end of the month the foliage will commence to turn yellow, and during the period of rest a night temperature of 60° will suffice, no more root moisture being given than will keep the wood from shrivelling. In January cut the plants back to the well-ripened wood and repot, first soaking the balls in tepid water and allowing them to drain for a day or two. They may be put into their flowering pots at once; these may range from 15 inches to 18 inches in diameter, as the plants will, under liberal treatment, grow into large specimens this season. Allamanda carthartica, A. Cheloni, A. Hendersoni, A. Schotti, and A. grandiflora are all excellent varieties. The last, though smaller in the individual bloom, is the best for growing in bush form.

J. CRAWFORD.

JUNE IN SOUTH DEVON.

DURING the month of June rain to the extent of 1·97 inches has fallen on twelve days, against 1·10 inches on eight days in the corresponding month of 1895, and an average fall of 2·28 inches. For the first six months of the present year 6·62 inches have been recorded against a rainfall of 11·41 inches for the first half of last year, and an average for the six months of 15·18 inches, so that up to the present we are about 9 inches under the average fall. Rainy days for the six months have been practically the same in each year, there having been fifty-nine days on which rain to the amount of 0·1 of an inch fell during the present year, against sixty during the same period of 1895. The average mean temperature for June is 58° F. This was exceeded by the June, 1895, record of 59·6°, and still further by that of the past month, 61·3°. The lowest reading in the screen was 46·8°, and the lowest on the grass 41·9°, while the highest screen-reading was 80·4°, which is the highest recorded for three years. In the mercury rose to 125·4°. The sunshine, though above the average for the month, which is 232 hours 30 minutes, did not equal the record of June, 1895, of 273 hours 5 minutes, 265 hours 45 minutes having been registered during the past month. The average sunshine for the first six months of the year is 945 hours 5 minutes, that for the present year being below it with 912 hours 26 minutes, and that for 1895 exceeding it with 1063 hours 20 minutes. The total horizontal movement of the wind has been 5356 miles, against 4319 miles in June, 1895, the greatest movement in a day being 450 miles, and the highest velocity attained per hour 20 miles. For the first six months of the present year, the horizontal movement of the wind has reached 38,090 miles, while for 1895 the record is 39,202 miles. For the month 60·3 per cent. of ozone has been recorded in the air, ranging from 85 per cent. during south-west wind to 35 per cent. with north-east wind, from which direction the wind blew for ten days out of the thirty. The humidity of the atmosphere has been 74 per cent. against 72 per cent. in June, 1895, but the air has not been so dry as was the case during May. In the garden the rain on the first day of the month freighted flower and foliage, but the showery weather was of short duration and soon gave place again to the arid conditions that prevailed in May, which lessened the size and lasting properties of the majority of flowers.

The snow-white Achillea ptarmica fl. pl. The Pearl has borne the drought bravely, but the hybrid Aquilegias were past their best at the commencement of the month and towards its close, but few of their daintily tinted blossoms remained unexpanded. The Alstroemerias, especially the hybrid section, have been unusually fine this June, breadths of delightful colour gradations, ranging from cream to almost crimson, being quite the feature of the garden. A. aurantiaca has produced its orange flower-heads in profusion, but lacks the delicacy of colouring and widely-spread flower-scape of the hybrids. St. Bruno's Lily (*Anthericum liliastrum*) and its va-

very means, as well as St. Bernard's Lily (A. Liliaceum), with their graceful habit and white blossoms, are June bloomers, and are all well worthy of a place in every collection of hardy plants. The Campanulas have been very beautiful. C. glomerata, with its long C. g. alba were from a distance the most effective, the tall flower-spikes exceeding 3 feet in height, studded with large wide-spread starry cups of white or purple, when thrown up from the clumps in dozens being exceedingly handsome. C. latifolia and its white variety are ornamental plants in the wild garden, but their display is of shorter duration than that of C. grandis, and their fragile drooping blossoms are hardly used by the burly humble bees, who throughout the day tumble recklessly in and out of the tubes. The most lasting of the Campanulas is C. persicifolia and its varieties, of which the white form is far commoner than the purple, the double white variety, C. p. alba plena, being very enduring. The new C. p. alba grandiflora promises to be a great acquisition, its flowers being far larger than those of the type and very effective for indoor decoration. The Canterbury Bell (C. Medievale) is an old garden favourite, which has shone brightly by the drought, and its blossoms have been here to-day and gone tomorrow. Where, however, the flowers have picked off as soon as they commence to fade, another crop is produced. Corceopsis grandiflora towards the end of the month began to show a bright patch of gold in the border, and will continue its profuse blooming until late autumn. The long footstalks, brilliant colour and simple shape of the flowers render them well adapted for arrangement when cut. The plant should be raised annually from seed, as it often, after its prodigal flowering, fails to withstand a hard winter. Of climbers, the sweetest has been the white Jasmine, which wreathes the end of a pergola with its odorous bloom-clusters. J. revolutum, which is classed in a certain gardener's dictionary as a stove climber, is quite hardy in the open air in the south-west, and is now expanding its yellow blossoms. The large white Clematis Miss Bateman has spanned a Laurel archway with its great stars, and C. Jackmanii began to spread its purple over the wall before the end of the month. Tropaeolum speciosum has at length, after many trials, taken hold to its support, and has produced beneath it its vivid scarlet blossoms, which in the sunlight glow like fire, and warrants the name of Flame Nasturtium applied to the plant. The roots of the one in question are planted in rich, porous soil in a sheltered and shady position, the upper portion of the growth being exposed to the sun. Solanum jasminoides has been in flower during the whole month, but every week the clusters of white blossoms become larger and more numerous. In the south-west there is no more satisfactory climber than this Solanum, as it commences to flower in May and continues to bloom until nearly Christmas if the weather be open. The crimson Dianthus Napoleon III. has been a mass of rich colouring, coming into bloom as the white Pinks, which have filled the air with their exquisite fragrance, are ending their flowering. Tall Delphiniums have thrown up azure and purple spires in the wild garden, where in May the white Foxgloves swayed. In such a situation the great Centaurea macrocephala, with its large golden heads of bloom, is a handsome object. A small and dainty flower, the double white Rocket, Sweet William, Jacob's ladder (*Polemonium caeruleum*), and its white form, Bergamot (*Monarda didyma*), and Tradescantia virginica, with its deep purple blooms, have been in flower. Erigeron speciosus has produced in quantity its tender lavender blossoms, a tint very acceptable in the garden at midsummer and one that associates pleasingly with white for indoor decoration. I saw the other day a charming arrangement of Madonna Lilies, white Everlasting Pea, and the above Erigeron, that in colour and form would have been hard to beat. Talking of flower arrangements, how beautiful are some of the new Sweet Peas! Counter of Radnor, to my

mind, still remains without a peer, and with its delicate mauve-purple the faint flesh and sulphur tints of Venus and Mrs. Eckford create a delightful harmony. A plant that always, at this time of the year, attracts attention by reason of its striking colour is the Caucasian Sea Holly (*Eryngium Oliverianum*), its steel-blue flower-heads being most effective both in the garden and when arranged with grasses or other light accompaniments. E. amethystinum is also possessed of the same metallic lustre. The early Gladioli, while they lasted, were very attractive, but G. Colvillei The Bride was over before the handsome scarlet insignia and other telling varieties, such as ardente and Prince Albert, had appeared. Their flowers, though white, were not white for they were in good bloom before June had departed, and the (G. pallidus) displayed their scarlet and gold circles to the best advantage in the hot sunshine, while the Day Lilies, Hemerocallis flava and H. fulva, the former the first to bloom by three weeks, bore on their flower-scapes a long succession of clear yellow and orange-brown flowers. Hypericum Moserianum has been attractive, and Inula glandulosa has bloomed very freely, though its stature and the size of the individual flowers have suffered from the drought. Of Irises, two handsome, but seldom seen varieties, aures and Monnierii, both having yellow flowers, are June bloomers and are identical in habit with that splendid Iris orientalis, also known under the names of ochroleuca and gigantea. This has been especially fine, reaching a height of 5 feet 6 inches. I. Kämpferi by the waterside has bloomed freely, the flowers varying considerably in both colour and shape, some being flat and as much as 6 inches in diameter, while others, more elegant, with drooping falls, are not more than half that size. The variegated Water Flag which bloomed at the commencement of the month has lost its markings and is now variegated only in patches. English Iris has been smaller than usual, but the clumps of self-coloured varieties, claret-tinted, dark purple, blue, lavender, and white, are charming additions to the hardy flower border, and a little loss in size passes unnoticed.

Lilies have, considering the season, grown well. L. canadense opened its first flowers before the end of the month, and L. candidum has bloomed freely, although scarcely reaching its last year. L. c. L. c. coccinea on the other hand has grown very strongly and has borne enormous flower-heads. L. exculatum is in good health and is flowering well, but L. Harrisii, I regret to say, a total failure. There is no doubt but that in many gardens a yearly planting must be made if a good display of this beautiful Lily in the open ground is desired. L. pardalinum has increased greatly, and one of the stems bids fair to be considerably over 6 feet high. Its first flowers opened on June 18, ten days before the earliest bloom of L. canadense. Other Lilies in flower during the month have been Hansoni, Martagon, M. album and Maximowiczii. The blue Linum (L. narbonense) and the yellow L. flavum have made pretty pictures, the latter (a sheet of bright gold) being especially brilliant. The scarlet heads of Lychnis chalcedonica and its double variety began their display before the end of the month, and L. versicolor alba plena has been covered with flowers, which at a little distance have much the appearance of the Pink Mrs. Sinks. The white Musk Mallow (*Malva moschata alba*) is an attractive perennial, and has been flowering well; indeed, after the Minima has borne tall heads of showy blood-red and gold blossoms and the Water Forget-me-not carpeted the damp ledges with pale azure. Old roots of Nicotiana annua have thrown up strongly, and the perfume of their blossoms has scented the night air, while the mild winter has left uninjured old plants of white Antirrhinum, Agathis coelestis and Paris Daisies, both yellow and white, which are at the present time in full bloom. Of the *Enotheras*, E. Youngi, fruticosus and the tall Lamarianniana have brightened border and wild garden with their bright yellow and the Ivy-leaved Pelargoniums Mme. Crouze and Souvenir de Charles Turner spread over stone

edgings their tints of pink and cerise. *Onosma tauricum* has continued to bloom throughout the month, and the herbaceous Peonies in diminished numbers lasted until almost the close. Oriental Poppies with their flaming scarlet, Papaver pilosum with its faint buff, the Iceland Poppies with their white, orange and yellow tints, the Welsh with their clear gold, and the annual Shirley or field Poppies, with diverse shades of pink and red, have lent invaluable aid to the colour scheme of June. Pentstemons are in full bloom, and the first flowers of Scabiosa caucasica expanded their light blue petals as the inflorescences of the tall Meadow Rue (*Halestroem aquilegiifolium*) above them faded.

Roses have suffered much from the drought and have been, for the most part, small and often misshapen. Green fly has been rampant, and even hard syringines with insecticides and subsequently with water have failed to abate the pest for more than a few days. In many cases, buds inserted last year have remained absolutely dormant, and the same stocks are now being rebudded. Although perfect specimens of Tea and Hybrid Perpetuals have been very scarce, the climbing Roses of the Evergreen, Ayshire, and Bourgoult sections have been objects of great beauty. Of Spiraea, S. aruncus, S. Filipendula, S. japonica, S. palmaria, and S. venusta, light flesh pink, have been in bloom, while the shrubby section, S. flagelliformis, with its arching shoots smothered in rosettes of white Hawthorn-like blossoms, has been a conspicuous object. Semipervirina arvense and Sedum album have been bee-haunted from morn till eve, the drowsy cadence of the hive-workers' honey-song being murmurous through every minute of the sunny hours. Saxifraga Walliae has held its flowers well through the month, and from a shaded corner on June 29th a picture came of the shape of a bunch of white Violets. The bushy *Oenothera* the bipinnata has been covered with its numerous white blossoms, the double Deutzia's sprays have been flower-laden, and the Cistuses, forciniensis and ladaniferus, have produced a long succession of large, fragile-petaled blooms. That beautiful Syringa Philadelphus mexicana, as charming from the exquisite scent as from the form of its cupped ivory blossoms, is one of the choicer of June-flowing shrubs. P. coronarius and P. grandiflora, handsome as they are, lose by comparison with it. The first large white chalcides were cut from the standard Magnolia grandiflora (the Exmouth variety) on June 15, more than three months earlier than last year, and a full fortnight earlier than in 1894. The tree is crowded with buds which will open day by day until the advent of the first frost.

S. W. F.

GARDEN FLORA.

PLATE 1074.

TIGRIDIA PAVONIA FLAVA.

(WITH A COLOURED PLATE.*)

ANOTHER new and distinct variety of the Mexican Tiger Flower adds a most beautiful plant to our open-air gardens, and its portrait in THE GARDEN appropriately serves to emphasize the centenary of the original introduction of this gorgeous flower to English gardens from the wilds of Mexico, as it was in 1796 that it reached us through Spain. This Tigridia is a conspicuous instance of a plant retaining its original colour under cultivation in a provokingly persistent way and then suddenly breaking into a variety of sports, so that now we have, instead of the original scarlet form, a pure white (alba), a rose (rosea), a lilac (lilacea), deep yellow (confiandra) and this new pale yellow flavia. Now that the tendency to variation has begun, there

* Drawn for THE GARDEN by H. G. Moon in the Royal Gardens, Kew. Lithographed and printed by Guillaume Sevres.



CYRTOPODIUM PAVONINA VILGATA

is no telling what still more lovely varieties are in store for us. It was many years after the introduction of the original *T. Pavonia* that the yellow wild variety *conchiflora* was introduced, and when it came it was considered to be a distinct species, but it is now determined to be a variety only of *T. Pavonia*, and is found wild in Mexico. Then about 1836 a cross was raised between *T. Pavonia* and *T. conchiflora*, and named *Watkinsonii*, and this appears to have been intermediate between the two parents and probably approaching the colour of this new variety *flava*. Whether *Watkinsonii* is in cultivation now I cannot say, but I think it is doubtful, as I have never met with it.

There seems to have been nothing new in the way of *Tigridias* from the time of the raising of *Watkinsonii* till Wheeler, of Warminster, raised a fine form and called it *Wheeleri*, and this appears to be identical with what is now called *grandiflora*, having a larger flower than the original *Pavonia* and richer in colour. There was a lull in new *Tigridias*, until about 1874, M. Hennquin, of Angers, raised an accidental seedling, which turned out to be a lovely variety *alba*, which surprised us all by its beauty when it first flowered in England in 1883. It was figured the following year in *THE GARDEN*. The flower is as large as that of *grandiflora*, with pure white petals and sepals adorned with carmine blotches and spots at their bases. Ten years later, that is in 1894, there was figured in *THE GARDEN* the splendid variety *lilacea* and another called *rosea* described. With the exception of *conchiflora* and the defunct *Watkinsonii*, all the varieties of *Tigridia* have been described in *THE GARDEN*, the plate of *T. Pavonia grandiflora* having been published in 1879.

Throughout the volumes of *THE GARDEN* there is a great deal of information given upon *Tigridias* and their culture, and so recently as March 31, 1894, I gave a full account of the varieties and culture, so that it is scarcely necessary here to give cultural remarks. Let us hope that raisers of seedlings will be fortunate in adding to the range of tints in the selected varieties, and that hybridists will turn their attention to crossing the *T. Pavonia* with allied species, particularly *T. Fringlei* and *T. lutea*, *T. violacea* and *T. Van Houttei*, which are probably in cultivation, though somewhat difficult to obtain.

Kew.

W. GOLDRING.

The flower trade of the Italian Riviera.—The British Vice-Consuls at San Remo and Bordighera in their latest reports refer to the growth of the trade in flowers from the Italian Riviera. Mr. Congreve, writing from San Remo, says that the only trade largely increasing in his district is that in flowers. Along the coast line from that place to Ospedaletti and Bordighera Olive trees have been ruthlessly cut down, the ground has been rearranged in high terraces and all planted with Roses and Carnations, the picturesqueness of the scenery being greatly spoiled by this wholesale destruction of the characteristic Olives. Mr. Daly reports that Bordighera, as a resort for visitors, is, perhaps, more essentially British than any other place on the Riviera. Practically all the ground used for residential purposes by foreigners is owned by British subjects, also a considerable portion not yet built upon. Although the prices asked for building sites are high (ranging from 5 lire to 20 lire the square metre), such sites are constantly passing into the hands of British owners who have either an immediate or future intention of building. Bordighera has a large acreage of Olive, Palms, and Lemons are cultivated for profit, but of late years there has been a tendency to substitute the culture of Roses and other flowers with a

view to exportation. The Olive crop is precarious, a really good yield seldom occurring more frequently than once in three years, and often more rarely still. Lemons, which a dozen years ago commanded a remunerative price, have now nearly ceased to do so. Palms are still exported in greater numbers than from any other place on the coast, but the trade is in a few hands. But the growth of Roses and other flowers for exportation has expanded into a considerable trade within the last few years, with the result that clearings have been made in the dense belt of Olives which fringes the coast line between Ventimiglia and Bordighera. Even this new industry, however, has, it is observed, shown signs of unremunerative point owing to increased production, and being, moreover, affected by the weather, the caprice of the markets, and other causes. Still, the new flower trade, when the conditions affecting it are properly understood, will, he believes, expand, and to some extent become a source of local wealth. The exportation of flowers is not largely in the hands of the actual growers; a small class of middlemen has been created, the members of which contract in the autumn for the winter and spring produce of the gardens.

THE WEEK'S WORK.

HARDY FRUITS.

STRAWBERRIES.—Runners that were layered some time ago into small pots will by this have made sufficient roots to admit of their being transferred to other quarters. Those intended for early forcing ought to be put into their fruiting pots without delay in order that growth may be completed before the days get too short. The size of pots used for these must in a measure depend on the variety grown, for as some make much more foliage than others, the strongest will need the greatest support, and these ought to have pots one size larger than those for such as John Ruskin and La Grosse Sucré. In some gardens much of the early forced fruit has to be packed and sent to the family in town; where this is the case, size and firmness should be taken into consideration, as both small and soft varieties are ill adapted for this purpose, as they present a poor appearance when they reach their destination. Royal Sovereign is a good Strawberry, of first-class quality, and when the plants are properly prepared with a root-bud, but even this is of rather robust habit, it needs more support than some others; therefore, to have it in the best possible condition, sufficient root-room should be allowed or much extra labour will be needed in watering. For all such varieties, pots of at least 6 inches in diameter should be used. Many people make a mistake in putting too much drainage into Strawberry pots, thereby reducing the space allowed for the soil. The pots used should be clean and no more crocks put in the bottom than will carry the water away freely. This in a measure must depend on the kind of soil used. Where it is of a heavy nature, bordering on clay, the water does not pass through it so freely as that of a lighter nature; such will therefore need greater care in watering till the pots are well filled with roots. If light compost is in a proper condition as regards moisture at the time of potting, it cannot well be made too firm, for the roots of Strawberries are very fibrous. On the other hand, that of a close nature will need but little ramming, or more harm than good will be the result. It is no uncommon thing to see the water stand in the pots of newly-potted plants for several days before passing through the soil. Such care, on the part of the grower, is necessary for healthy root-formation; therefore the operator should be exercised in this. Such work is often left to inexperienced hands, but no greater mistake could be made, and little wonder failures follow. When potting, make that portion which is put into the pot previous to inserting the plant fairly firm and of sufficient depth to raise the crown to within three-quarters of an

inch of the rim. The space round the ball should also be made moderately firm, allowing sufficient room for water to moisten every particle of soil in the pot. After potting, the plants should be stood on a bed of ashes in a sunny position and receive careful attention as regards watering, for it is remembered that it is in the first management that much of the after success depends. Those who are able to produce well-developed crowns that can be thoroughly ripened need have but little fear of them failing to supply strong flower-stalks if care be taken to look after them when introduced into the forcing house. There should always be sufficient space left between the pots while the plants are growing that the air may circulate freely amongst the leaves, for the more robust the leaf-stalks the finer the crowns. For late use boxes are preferable to pots, as the soil in them does not dry so rapidly; those of 2 feet in length, 6 inches wide, and 7 inches deep will be found a convenient size. A goodly number of these may be used, being introduced into cold frames in spring. Plants in the open ground from which the fruit has been gathered and that are intended to stand for a future crop should be freed of all runners and weeds and the spaces between the rows pointed over, giving if possible a top dressing to encourage fresh growth. Where it is intended to make new plantations the ground ought to be at once prepared, unless this has already received attention, that there may be no delay in getting the plants out the first favourable opportunity. In planting, the strength of the foliage should have due consideration, for if kinds having large leaves be planted so close together, the fruit is so shaded that in very weather much of it is spoilt. Last season I planted a batch of Comptimier, allowing a distance of 2 feet each way, but so strong have the plants grown, that the foliage covered the space allotted them, and most of it has had to be removed to allow the fruit to ripen. The crop is enormous, the fruit large, but deficient in colour and flavour.

WALL TREES.—These should be again looked over, and where there are any shoots that require securing in position this ought to be done without further delay, so that we may have time to them should we experience a gale. Trees that have made lateral growth should have them removed that the fruit may have the full benefit of all the sun and air. It is seldom after this date that back buds push; therefore in the case of Apples, Pears, and Plums the breast-wood may be cut back to two eyes, which will save much labour in winter pruning. In doing this be careful to make a clean cut and not to injure the leaf of the top bud, or the spur will die off. Plums growing on heavy soil usually make strong growth unless pinching is resorted to early in the season, and where this has not received due attention, it would be far better to shorten the young shoots now than to leave them till winter, when if severe weather follows, gummum often sets in and so ruins the trees. Pears are now swelling fast. In order that the fruit may have the full benefit of the sun and be assisted by the radiation from the walls, all superfluous shoots should be removed. In doing this pay strict attention to the future welfare of the tree, for if any leaves be removed that support prominent buds such will fail to swell next spring, and may, therefore, spoil their shape by causing dead spurs. Cordon against walls that have filled their allotted space will need special care in this respect, that those buds which are to supply flowers next season may be fully developed. It is an easy task to remove a shoot from a tree, but the operator should thoroughly understand the consequence of so doing, as in many instances much harm results therefrom; whereas by a judicious thinning out of the spurs, that the foliage may not be too crowded, the buds become far better developed and finer fruit is obtained. If anyone will take the trouble to notice the buds on a young growth that is well matured, he cannot fail to observe that they are much more plump than those on spurs where the leaves are so

crowded together as to prevent them from becoming puny or deformed. We too often overlook these small trifles, then wonder how it is that failure so often follows. It is not many places where room can be found on walls for Apples, and though they may grow and fruit well against north walls, the flavour of fruit from such trees is very deficient owing to the absence of sun. Large fruit may be all very well on the show table, but, as a rule, garden walls can be turned to a more profitable account than growing large, soft Apples, and for this reason it is seldom attempted; but where there is ample space for everything, there is no reason why cordons may not be grown, and where this is attempted, special attention will now be needed if perfect samples are to be obtained. The fruit must be fully exposed to the sun, and close watching will be needed to guard against insects and other pests. Water must also be liberally supplied if fine specimens are desired, and no pains spared to bring the crop to perfection. Morello Cherries ought now to be afforded a thorough soaking of liquid manure as soon as the crop is set out, as they are unusually heavy, there will be a great strain on the trees to bring the fruit to maturity. As soon as there are the least signs of colouring, protection should be afforded, or the crop will suffer considerably from the ravages of the birds. H. C. PRENTICE.

KITCHEN GARDEN.

CABBAGE.—No set time can be advised or chosen for sowing the main crop of Cabbage with an absolute certainty of its being the best under all circumstances, so much depending on the weather that may be experienced after planting time and also on the varieties sown. This being so, it is wise not to confine oneself to one sowing only, for by the middle or end of September there should be plenty of suitable ground cleared of early crops to admit of planting a much larger bed than will ultimately be wanted, and it will be easy to judge before any of the ground needs digging and preparing for other crops which is likely to succeed best. The labour of planting not being great, I make myself, and advise others to make, three sowings, the first now, the next about the 25th inst., and again during the second week in August. With me it is generally the second sowing that turns out best, and in this case the earlier plants, which will show symptoms of turning in before Christ has it we get a growing stock and can cultivate about that time and give many acceptable dishes for the ground on which they are growing as needed for digging. I prefer to sow the first lot in an open situation on the flat rather than on a sloping border, as water is then more easily applied if necessary. The ground has got so thoroughly dry here, that I shall take extra pains in preparing the seed-bed to have the soil well moistened to a good depth before the seed is sown, unless rain falls heavily in the meanwhile, for a good start to the young plants is imperative, and, it is almost needless to say, they do not get this on a hot and dry soil. With the ground in good order it is immaterial whether the seeds be sown broadcast or in drills, but I prefer the latter, as by drawing fairly deep drills and well watering these immediately before sowing, we do the best that can be done to ensure a good start irrespective of weather. Sow thinly, or the plants will probably starve before they can be planted out. Protect from birds by rolling moistened seeds in powdered red lead or by netting the bed after sowing. With birds so numerous as they are here, I do not find that stretching them along the border is sufficient protection. Dust the young plants with wood ash soon as they appear, and do this persistently until they get well out of the seed leaf stage. With regard to varieties for sowing now, I pin my faith to Ellam's Early, which, taken all round, is the best early Cabbage I know. Emperor is also a grand variety or selection, which seldom or never bolts. I commenced cutting Ellam's, with quite nice hearts before March was out this year from seed sown on July 12, and as it runs small in foliage,

it can be thickly planted, an advantage which means much on limited areas.

CELERI.—The latest sown batch will now be ready for planting, and where room can be found it will be well to put out a goodly number of plants, as these will be harder than those of the main crop, and will be very useful during the spring months. If the trenches are not already prepared, a portion of the old Cabbage bed may well be cleared and used for them, as they can be better formed on firm ground, the sides of which will not fall in. The growth on these late plants will not reach the length attained by that of earlier plantings, so the trenches need not be dug so deep; 4 inches below the original level will be ample to supply soil enough for earthing. In other ways prepare as before advised, being careful that all manure used is in a perfect state of decomposition, and that the plants are not allowed to suffer from want of water. Where sufficient room cannot be found for all the plants, plants under the trench system, the portion may be planted out on the level as recommended for Celery, putting the plants about 15 inches apart. Those planted in this way will, if well looked after and fed, supply very good stocks for cooking and flavouring, and may be blanched by tying the leaves together when fully grown and packing between the plants with leaves free from slugs or worms, Bracken, or long litter. Of course, more plants may be grown in this way on a given area than can be grown in trenches, and the system should not be overlooked by those whose operations are at all cramped from want of room, and though the produce may not be so uniformly good as may be desired, it will all come in handy for one or other of the many uses to which Celery is applied. The Celery fly is inclined to be troublesome this year, but may be kept at bay by dusting the plants with soot while the morning dew is on them, and all maggots already developed in the leaves must be looked for and crushed before they travel far, as they will then do but little damage. It is only where this is neglected that plants become spoiled. Attend closely to the watering of all Celery even as it shows no signs of suffering, as pipy stems will be the inevitable result of any deficiency in the supply of water now or during the period of rapid growth. I do not advocate frequent doses of liquid manure; well grown Celery can be grown without its aid if the trenches have been well prepared and plenty of clear water is given.

COLEWORTS AND SAVOYS.—These should not be left in the seed bed long enough to get starved or leggy, and is good practice with such things to draw from the bed and planting as soon as the forwardest plants become fit, continuing to do this at intervals until all are planted, as by this method we can obtain turnings from once sowing, instead of having all turn in fit for use within a few days of each other. It is all very well to plant big broadheads at one time when planting for sale, as then there is no necessity to let any of the crop spoil, but in growing for private use small lots are the most likely to give satisfaction to grower and consumer, as the produce can then be cut at its best instead of being allowed to burst or turn white at the heart before it can be used. With a view to making the most of the ground at disposal I advise fairly close planting, say about 15 inches apart, at present for the Coleworts and smaller Savoys, such as the Dwarf Green Curled and the Tom Thumb, reducing this distance still further as the season advances, for late plantings do not give large hearts, however much room may be given the plants. Puddle the roots as advised for the other Brassicas before planting, as this prevents attacks from grubs, besides being beneficial to the plants in other ways as it helps to keep them fresh and excites more root action. Where slugs are trouble, some they should be trapped by putting down here and there handfuls of bran and examining them at night. Dusting the plants with freshly slaked lime also is useful, but too much dependence should not be placed on this, as the lime soon

loses its anti-slug virtues and will require frequent renewal to be effective.

GENERAL WORK.—The Asparagus beds should now have a second sprinkling of manure, as growth is rapid when once allowed to develop, and the season when manure will have the best effect is only short. Scarlet Runners grown on the dwarf system will require frequent topping to prevent much development in the running shoots and to throw the strength of the plants into the pods. French Beans must be kept closely picked, and no pods should be allowed to perfect the seeds, which would soon put an end to further produce. Keep both the above well supplied with water, dryness at the root being a fertile source of the flowers dropping without setting. Where Bracken is used for protection and for other purposes in the kitchen garden, the present will be the most suitable time to cut, dry, and stack as much as will be wanted during the next twelve months, as it is useless to leave the cutting much later, it being not only a nice sight to have a large pile of the stems ready for stumping. I find Bracken far the best natural protection for protection and advice all who have it within reach to lay in a good supply. Peas should be kept well watered to advance growth and to prevent mildew, and late sowings must be mulched without further delay if the mulching is to have its full effect. Continue to plant out a few Lettuces as opportunity offers. Few and often should be the order with these to keep up a continuous supply of hearts in the most useful condition, and where the Brown Cos or any other spreading variety is used, do not neglect tying up for blanching at frequent intervals. Keep the hou going among all crops which do not yet cover the ground and strive to prevent the development of big seed weeds throughout the garden, or they will give trouble later on.

J. C. TALLACK.

ROSE GARDEN.

TEA ROSES PLANTED OUT.

SINCE the increased demand for Tea Roses in private establishments pot culture has to a great extent been superseded by the planting-out system, it being no uncommon thing to find a good-sized house entirely devoted to them, gardeners finding from experience that far better and more lasting results can be obtained from plants so grown than when the roots are confined to the narrow limits of a pot, and that the trouble attending their cultivation is also reduced to a minimum. Large growers who cater for the metropolitan and other large markets continue of necessity pot culture, as during the summer months their huge houses are required for the accommodation of Tomatoes, and the pot Roses can then be stood out of doors. Tea Roses succeed well either in a span-roofed or lean-to structure, provided ample provision is made for abundant ventilation. In a lean-to house, the back wall can be utilised for fruit trees, or climbing Roses may be planted thereon. When a new house is built for the purpose, it is always best to fix the roof-lights so that they can be removed after the blooming season is over in order to allow of copious rains watering the border, cleansing the foliage, and full exposure to the air until the beginning of November. There is no comparison between a house of Roses so treated and one which has the lights permanently fixed and in which all root and atmospheric moisture has to be applied artificially. The first consideration is the border, which need not be more than 2 feet deep, well drained, and composed, if possible, of a good sound maiden loam, rather strong than otherwise, although experience proves that many of the best Teas will not do in what is usually termed a

clay loam. To this may be added a sixth part of rotten manure and road grit or coarse sand. If the border is prepared in summer it has then a chance to sink and become firm before the fall of the leaf, which is perhaps the best time for transplanting, although really Tea Roses can hardly be said to be dormant at any season of the year. Young plants, say from 6-inch pots, are by far the best, these invariably doing much better than old plants that have been forced perhaps for years and have had much of their vitality taken out of them. Make the soil firm about the roots, and give a slight mulch of leafy refuse to prevent undue evaporation, throwing the house open day and night even when moderate frosts prevail.

In private gardens January is about the best time for closing the house with a view of inducing growth, and to this end pruning may be performed in December. At one time the word pruning would have been considered out of place, as gardeners of the old school believed in removing entirely the weak shoots and allowing the main growths to remain almost at their full length. Market growers, however, prune their Tea Roses almost as vigorously as their Hybrid Perpetuals, and it goes without saying that the success attained by them could not easily be surpassed. Three feet apart all ways is a good space to allow the plants, crowding, under the pretence of making the best use of the house, being a great mistake and a loss in the end. The border must be well moistened, but owing to the early date at which the house is started a sloppy condition must by all means be avoided, or mildew, the greatest enemy of Tea Roses, will be sure to assert itself. Overhead syringing, also, must on no account be practised by rule-of-thumb, a gentle spraying several times weekly during January in fine weather being ample, increasing it when during February the sun's rays are more powerful. Abundance of air must be given in fine weather, even when sun is absent, a little being left on all night when mild. The front ventilators, however, must remain closed, as draught to the tender leafage is simply ruinous. As a rule, green fly makes its appearance at an early stage of growth, but this can immediately be stopped by spraying with quassia extract—half a pint to 5 gallons of water—or by ordinary fumigation.

One great advantage of the planting-out system is that the plants generally throw up extra strong, sucker-like shoots from the base, and when this is the case, any stimulants during the first season should not be given. As soon as the bulk of the blooms is past, the plants should be relieved of any weak growths, and the remainder encouraged by plenty of root moisture, liberal syringings and an abundance of fresh air, from air now being imperative. In July the roof lights may be entirely removed, when, with the exception of an occasional watering if the weather should be dry, the plants will take care of themselves, the lights being again replaced in November.

J. CRAWFORD.

Rose Rêve d'Or.—I was glad to read "D.'s" eulogistic note on the above Rose on page 472. My experience of Rêve d'Or entirely coincides with his, and were I limited to one Rose, I should unhesitatingly grow it in preference to all others. Its growth is amazing, it flowers profusely and is very decorative by reason of its handsome foliage when not in bloom. In 1893 I put out a small plant against a south-east wall. It is now 16 feet high, and has covered the whole breadth allotted to it—viz., 8 feet. For the last three years it has blossomed prodigally and very early, producing a certain amount of blooms later in the season,

when cut before they are fully open, the flowers, with their characteristic fragrance and gold, may be used for indoor decorations, and bowls full may be cut each morning without their absence from the plant being apparent. Gloire de Dijon is certainly not so satisfactory with me as the subject of this note, but Gloire Lyonnaise in a sheltered position proves a very vigorous climber and produces a long succession of its large white blooms.—S. W. F.

Rose Souvenir de Mme. Sablayrolles is a Tea at present very little known, but it certainly will soon be in all collections. A cross between Devonensis and Souvenir d'Elise Vardon should be a sufficient commendation of this variety to exhibitors. The habit is more vigorous than in Souvenir d'Elise, making good stiff solid wood. The buds before opening give one the impression that they are those of Gloire de Dijon or other similar kind. The colour is of a rosy salmon hue, but yet a beautiful apricot tint appears to pervade the flower of this variety. The shape resembles that of Souvenir d'Elise, and I believe we shall see this variety ere long in most exhibition stands.—P.

Rose Marquise de Salisbury (H.T.).—This is about the most brilliant variety now in bloom, not even excepting the Crimson Rambler. If grown on the seedling Briar there never appears any great cessation of flowering all summer and autumn. The individual blooms have a peculiar twist, resembling very much the single Cactus Dahlia. A grand effect would be produced by planting masses of 100 or more plants of this kind, or a combination of this variety and Kaiserin Augusta, Victoria or Mme. Pernet-Ducher would be a novel and attractive addition to the garden for those who love bold masses of colour.

Rose Reine Olga de Wurtemburg (H.T.).—This might almost be called an evergreen Rose, as it retains its foliage quite as long as the so-called evergreen varieties. It is exceedingly vigorous, rambling quite as much as the Crimson Rambler, and the foliage is large and of a beautiful glossy dark green. The flowers are almost single, of a rosy crimson colour, but, as in most of these single varieties, the buds are long and handsome. At the present time it is very effective. It would be a fine subject for the wild garden.

Rose Francis Dubreuil (Tea).—Undoubtedly this is the best red Tea we at present have. It will be found much superior in growth and form to the variety Souvenir de Thérèse Levet. The colour is somewhat similar, namely, a rich maroon, but the edges of the petals are often shaded with an almost black colour. The symmetry of the buds and the rounded flowers and the beautiful finish of this variety is its principal attraction. It will no doubt be the best variety of its colour for winter blooming, much superior to such kinds as W. F. Bennett and The Meteor, the latter requiring a very high temperature to bring it to perfection.

Rose William Allen Richardson.—To grow this most useful Rose successfully, certain special cultural details must be attended to. My experience is that it does best either on its own roots or budded, so as to form a low bush, the point of union being set into the soil at planting time. Why so many fail with it is that they use the knife too freely, which it will not endure at any cost. It needs ample room and likes to be let alone year after year, all the pruning that is required being removal of any weak shoots and duly balancing any that may have taken the lead during the summer. It is one of the hardest of Roses, standing an east aspect well and being very little subject to green fly or other pests.

Although my plants were killed down during the winter of 1894, they last summer made strong shoots from beneath the soil and are now as vigorous and free flowering as ever. Those under my charge are growing in a medium loam; perhaps they might not do so well in a heavy, retentive soil. It does very well on a wall pro-

vided there are ample height and scope for development, and the roots should be laid in annually, at almost their full length, sufficient being retained to furnish the bottom of the wall. When I first planted this Rose I adopted rather hard pruning, but so many of the shoots died back and the growth was so weak, that I was led to give it head, with the above-named satisfactory results.—J. CRAWFORD.

ROSE-GROWING IN FRANCE.

In the department of Seine-et-Marne, which lies adjacent to Paris on the east, Roses are largely grown, the oldest and leading establishment in this branch of horticulture being that of Mons. Scipion Cochet—whose death we referred to in a recent issue—situated at Grisy-Suisnes, a small village lying about half a mile from the high road leading from Paris to Troyes and Bâle. The proper name of the village is Suisnes, and the prefixed name of Grisy indicates the commune to which it belongs.

About the end of the last century a château near Suisnes was tenanted by a nobleman named Amiral le Comte de Bougainville, whose gardener, Christophe Cochet, having a peculiar fancy or hobby for grafting or budding Roses, formed a small rosery consisting of some varieties of Moss Roses and several old-fashioned kinds which have since disappeared from cultivation. Recognising the skill and intelligence of his gardener, the admiral encouraged him, and finally persuaded him to establish himself as a nurseryman at Suisnes in the year 1799. Here he formed a nursery of trees and shrubs, and commenced growing Roses on a large scale by a system of field culture. His son, Pierre Cochet, continued to carry on his branch of horticulture, and, having acquired the château and park of Plouy, extended his nurseries very considerably, so that they embraced every branch of horticulture that was known in those days—that is, at the commencement of the present century. At a very early period he raised two new varieties of Roses from seed, viz., the Noisette Bougainville and the Bengale Philémon, two charming small-flowered varieties of Roses which are not easy to obtain at the present day. About the year 1846 Pierre Cochet took into partnership his son, Philémon Cochet, who subsequently, on the death of his father in 1853, took into partnership his younger brother Scipion, the present head of the establishment.

In the year 1850 the Cochet nurseries contained about 200 varieties of Roses, but at the present date fully 2000 varieties are grown there, occupying an area of about 12½ acres. Multiplication is carried on so extensively, that the annual output of the establishment amounts to some hundreds of thousands of plants. There are several other Rose growing establishments in the vicinity of Suisnes, and the combined statistics of the whole show that in this quiet little corner of the world more than a million of Rose plants are produced every year.

In addition to the area of 12½ acres which Mons. Cochet has under Roses, he has also 62 acres occupied by a great variety of trees, shrubs, and flowers, while eight warm and temperate houses afford the necessary protection for the tender kinds. Forty skilled workmen are constantly employed on the grounds.

For the following new varieties of Roses the horticultural world is indebted to Mons. Scipion Cochet, viz.: Arthur de Santal, Souvenir de la Reine d'Angleterre, Comtesse de Jancourt, Souvenir de Mme. Hennicart, Mme. Scipion Cochet, Mme. Bonin, Mme. Rocher, Société d'Horticulture de Melun, Charles Boissières, Parvula, Vicomtesse de Veins, Baronne de Beauverger, Mme. Elise Chabrier, Charles Lée, Souvenir de Coulommiers, Mme. Paul Marney, Mme. Philémon Cochet, Baron de Girardot, Gilon du Bouchet, Princesse Marie de Lasignan, La Nantaise, Mme. Pierre Cochet, Prince A. de Wagner, Baronne de Noirmont, Maman Cochet, &c. Besides the foregoing, Mons. Scipion Cochet has also raised

the following varieties of shrubs, viz.: *Hibiscus syriacus-tenuis-albus*, *Ulmus-virgata*, *Acer platanoides-slabus*, *Pilim Souvenir de Cochet* var., *Near William Panache*, *Ceanothus Marguerite Audouin*, *Lilac Philomene Cochet* and *Clara Cochet*, *Billbergia variegata Morren*, *Azalea Clara Cochet*, &c. In the year 1877 Mons. Scipion Cochet commenced to republish his *Jardin des Délices*, a monthly issue of sixteen pages dealing exclusively with Rose culture, and now edited by his son, Mons. Pierre Cochet. This well-conducted journal on a special subject has appeared regularly since the date of its foundation, and is much appreciated both in France and in other countries.—GEORGES DE MARGAS, in *LE JOURNAL DES CONTEMPORAINS*.

Rose Mrs. W. C. Whitney (H.T.)—This has a sweet and powerful perfume of the La France type, but this is not its only attraction, for it is exceedingly free-flowering and the colour is a lovely rose pink. It is a large Rose, flowering in clusters, but not a very double variety more suited as a garden Rose than for exhibition.

Rose La France de '89—What a pity this splendid Rose should have been burdened with such a name. It is what rosarians would term a massive Rose, and yet there is a distinct refinement about its large shell-like petals. The colour is a lovely clear rose red, exceedingly brilliant, and the foliage is extra large and distinct in colour. Altogether this is a superb variety for the garden.

Rose Mme. Delville (H.P.)—Evidently a seedling from Alfred Colomb, this Rose partakes a great deal of the character of that well-known variety. What is most marked about this variety is the combination of colours, the prevailing tint being a deep rose, but the petals are reflexed and silvery, giving the flower a most unique appearance. The shape is globular and the size quite up to the exhibition standard.

Rose Souvenir de Lady Ashburton (Tea).—One might almost call this the rainbow Rose. The lovely tints of colour in this variety are almost indescribable. The nearest approach to it that I know of is Marie Van Houtte when the flower is nearly dropping, only the bronzy tint is deeper. The form of the flower is of a type beloved by artists, informal and graceful, and the habit of growth is vigorous.—P.

TREES AND SHRUBS.

DAPHNE BLAGAYANA.

THIS—of which a coloured plate was published in THE GARDENER OF AUGUST 31, 1878 (p. 200)—is a delightful little shrub for the rock garden if planted in a partially shaded position where it will not get dried up in hot weather. It is said to do well on chalk. The plant is quite hardy, having stood in Yorkshire 25° of frost. It was discovered by Count Blagay in 1857 in Carniola, where it is said to grow along with *Erica carnea*, and is said to be valuable for forcing. The flowers, which are in compact umbels each about 2 inches across, rival those of the Orange in sweetness and purity.

Magnolia macrophylla.—The amount of interest taken in the blooms of the rare large-leaved Magnolia I was able to stage at the Drill Hall on the 23rd is sufficient proof that anything really good in the way of hardy trees and shrubs is quite as attractive as more tender plants. It is well that this interest is gaining ground, for whereas comparatively few can enjoy hot-house plants, the beauties of tree and shrub life are open to all who have a garden either on a large or small scale. When one gets a specimen of this Magnolia over 40 feet high and well furnished with branches, it is unique as an outdoor plant; the size of the foliage not unlike small

Banana leaves, the silvery under surface and the very fine flowers giving it the appearance more of an inmate of a stove than a hardy tree. The flower is seen at its best when partially open. Our tree is in a very sheltered spot—in fact completely hemmed in on all sides, and although this was doubtless highly beneficial in its early stages, the march of time has caused a Spanish Chestnut and a Beech to encroach unduly upon it. This question of shelter should decidedly be one of the first considerations in planting this particular tree, for although in its present form it is perfectly hardy, it is reasonable to suppose that plants in a young stage would get the under growth nipped by biting winds and early spring frosts. As the soil about our tree is naturally decidedly poor, very light, and changing to sand just below the surface, there was, I imagine, a bit of excavating when it was planted and a load or two of prepared soil brought to give it a start. The sandy soil and the dry exposed site are doubtless responsible for little annual growth, good ripening of the buds, and the freedom with which it flowers. I always think an ideal position for such a tree would be the end of a nicely sheltered glade

experience and have been able to trace the origin of it, but the conditions under which my trees are growing are so favourable, both for exposure to sunshine and abundant root space, that I can only attribute their failure to flower to the stock. I shall be very much obliged if someone can enlighten me in the matter.—S. Rod Ashton, Wilts.

Ostryoskia magnifica.—I have plant here with three shoots, the longest nearly 4 feet. The three shoots are carrying eleven buds and open flowers. It is growing in about 2 feet of poor loam on a hard chalk bottom. It flowered last year, but is certainly finer this.—W. HERRINGTON, Bettishanger Rectory.

The Spanish Broom (*Spartium junceum*).—Despite the number of different shrubs that have been introduced, this still occupies a very prominent place among hardy subjects whose period of blooming does not commence till the bulk of spring and early summer-flowering shrubs are past. Not only is it very beautiful when the bright grey twigs are studded with the comparatively large golden coloured blossoms, but it remains in this condition a considerable time as a succession is maintained for weeks. The



Daphne Blagayana. From a photograph sent by Mr. F. W. Moore, Botanic Gardens, Glasnevin.

where it could be backed by trees of larger growth with rather dark foliage.—E. BURRELL, Claremont.

Magnolias not flowering.—Whether nurseriesmen obtain their stock of Magnolias from seeds, layers or cuttings is a matter that does not often concern the buyer, nor would it have occurred to me to ask such a question but for the fact that two strong healthy trees—now planted some sixteen years or more on the house here—have not yet shown any disposition to flower. The fact of their being planted so long and their healthy state suggest that there is something different about their early history, because I have seen smaller trees of the same variety in other gardens bearing flowers very freely. They are about 18 feet in height and have had an unrestricted course, except that the lateral growths have been thinned annually to prevent them from becoming crowded. There is a good depth of dark soil overlying clay, and the broad gravelled space open to the roots has a tendency to produce abundant leaf-growth. Perhaps some of your readers can give me some information as to the reason for their non-flowering, and if it is possible for them to be seedling trees. Some of your readers no doubt have had a similar ex-

perience with *Spartium* as I have had with *Daphne*; hence it is not as an isolated specimen that I see it at its best, but rather when associated with other shrubs which serve to take off its naked appearance. In this way grand flowering examples are frequently to be met with. The Spanish Broom is easily raised from seed and can be obtained at a cheap rate from nurseries, but large plants do not transplant well, for the roots are few and descend deeply into the ground; hence for planting, young plants are to be preferred. In dry, hot, stony soils it succeeds better than most flowering shrubs, but grows best in a good deep, but open loam.—T.

Veronicas.—What a wealth and variety we have now of *Veronicas* that are tolerably hardy. Where space can be allotted them and a good collection grown, some kind or other will be in bloom from early spring until late autumn, and even the diversity in habit of leafage and growth and the delicate tint in some varieties are sufficiently interesting to ensure them a place among choice rock plants. I subjoin herewith a brief list comprising the dwarfish up to the tallest: *V. formosa*, *V. chathamica* minor, and *V. Lyallii*, gradually increasing in stature with *V. buxifolia*, *V. anomala*, *V. glauca cerulea* (the pale golden tint

THE GARDEN.

overspreading the two former and the glaucous leaf of the latter being an additional merit to them), *V. cupressoides*, *V. carinulosa*, *V. Bidwillii*, *V. Lewisi*, *V. vernicosa*, *V. rakaunensis*, *V. ligustifolia*, *V. parviflora*, *V. elliptica* (syn., *decausata*), *V. Traversii*, *V. Mariae Antoinette*, *V. salicifolia*, *V. Blue Gem*, and what I may term a major variety of *V. salicifolia*, being larger in all its parts than the one I have under the name of *V. salicifolia* and a much better thing. The larger growing varieties—say the last half dozen at least, must, as rock plants, be omitted where space is limited, as they grow into good-sized bushes in favorable districts and positions, but where the rock gardens are extensive and bold they should certainly be employed. Besides being good rock plants, these taller forms are well adapted for the margins of shrubby borders, specimens and masses on lawns and such-like positions, for they are very graceful and beautiful as well as useful for the cut-flower basket. For continuous blooming, together with effectiveness, I must give the palm to what I have referred to as a major variety of *V. salicifolia* and *V. Blue Gem*. The former is all over the place, as single specimens, groups, and miniature hedges; the latter grown chiefly in irregular masses—one such of several square yards at the foot of a rock and running among bold boulders being exceptionally attractive. Both are now in full bloom and will probably continue so, more or less, until late in the autumn. I believe I sent you some blooms of both last Christmas or later, and do so again now, together with some of what I have under the name of *V. salicifolia*.—JNO. ROBERTS, *The Gardens, Tan-y-bach*.

Spiraea Douglasi.—I recently saw some grand specimens in a congenial spot, where they formed close masses of their red-like stems, each of which was terminated by a dense, upright whorl of very bright rose-coloured flowers. After the principal spikes of flowers are past, secondary ones are produced, and in this way a succession is kept up for a long time; indeed, though now in some places in full bloom, its flowering season will often extend over July and August, and sometimes later than that. So long do the blooms continue to expand, that in many instances it may well be regarded as an autumn-flowering subject. This *Spiraea* is particularly free in growth, as it pushes up suckers in great profusion and in time forms a dense mass. It may be increased by division as readily as many herbaceous subjects, and in this way it can be propagated with but little trouble. This *Spiraea* is a native of Northwest America and is perfectly hardy in this country. The flowers vary in tint, the richest-coloured forms being particularly showy.—T.

CLIMBERS CARRIED BY TREES.

The difficulty of displaying the features of the climber is found in the poverty of the soil sufficiently near the tree, together with the shade given by the tree itself. Fresh soil, it is true, can be given for planting the climber in, and this further stimulated by soakings of liquid manure, but even then climbers sometimes refuse to grow at all. Deciduous trees only are suited for this mode of planting, and these not having a heavy or dense head of foliage. On the lawn here is an old and somewhat stunted *Acacia*, in whose branches the common Virginian Creeper makes a very pretty autumn display, especially as at the same time the foliage of the *Acacia* assumes a yellow tone, contrasting vividly with the bright crimson of the creeper's leaves. Such examples as this tempt one to extend this phase of garden planting, but the difficulty of selecting a suitable tree often asserts itself so vigorously, that any failure without success is apt to induce one to attempt to carry it off in the *Acacia*, *Laburnum*, and such like may in many cases be utilised in producing very pretty effects in the near or distant landscape. Our tree is an isolated specimen on the lawn near the house, so that its autumn glory is fully appreciated by its owner and many visitors. The common form of the Virginian

Creeper is better for this purpose than the neat and small-leaved *Ampelopsis Veitchii*, because its loose sprays hanging from overhead branches bring its colour and graceful aspect into greater prominence. Much care is needed on the part of those having to do the mowing of the grass near so planted, otherwise the labour extending over several years may become monotonous. Climbers are very pretty subjects for training over large bushes or low standard trees, so are the *Honeysuckles* and *Wistaria*. Even where difficulties do present themselves in the matter of planting, the wonder is that more frequent attempts are not made to establish climbers on suitable trees.

W. S.
Wilts.

ORCHIDS.

ORCHIDS AT CAMBRIDGE LODGE.

WHEN calling at Cambridge Lodge, Camberwell, recently I was struck by the number of rare and unique Orchids there in flower, for though naturally expecting something out of the ordinary, I was hardly prepared for such a fine display. Although the rarest and choicest kinds form the leading specialty here, the best of the popular species are grown in quantity, about 300 plants of *Miltonia vexillaria* in full bloom forming a grand show. Many good forms of the rose-type were among them, also the chaste looking *M. vexillaria* *Measuresiana*, possibly the purest white form in existence of this lovely Orchid, only the faintest tinge of rose being noticed on the sepals. Another fine form in the way of *radiata* deserves mention out of a collection in which not a poor form was present. Upwards of a dozen plants of *Lelia tenebrosa* were also in flower in this house, the form showing considerable variety, fairly large and extremely rich in colouring. A fine plant of the distinct *Saccocaulon curvifolium*, bearing five spikes of the pretty cinnabar-red blossoms, deserves mention, also a beautiful *Cattleya gigas*, each flower 7 inches across. There are many rare species—*Masdevallia*, the small-flowering section here meeting with the attention they deserve. *M. Gaskelliana* has several flowers, the inside of the sepals yellow, the tails purple, the lip slip-shaped and pale yellow. *M. cucullata* is a rare species with blackish-crimson sepals and tails about 2 inches in length. *M. corniculata*, a very deep coloured species, *M. calura*, deep crimson, the lovely little *M. triariella* with its numbers of tiny jewel-like blossoms, *M. Carderi* with its bell-shaped flowers singly produced on the scapes, *M. maculata* and many others were in bloom, and among the better-known kinds were very fine specimens of *M. bella*, *M. Roezlii* in variety, and *M. Backhouseana*. A very rare—in fact, almost unknown—Orchid is *Pleurothallis saurocephalus*, a dusky flowered plant producing scapes 8 inches high containing a number of flowers, these being small individually, the sepals densely covered with fine black hairs. The showy flowered section of *Masdevallias* is arranged in another house, and all the best forms of the *Harryana*, *Veitchii*, and other sections are represented by fine healthy plants full of flower, as are also the hybrids *M. Hinckleyana*, *M. Stella*, and several more. The Cyprideums at Cambridge Lodge are remarkable; indeed they are models of high culture combined with very careful selection. Immense plants many of them are, of such as *C. Morganiae*, *C. leucorrhodum* and other hybrids. A large plant of the singular *C. Pearcei* was in flower, while all the cream of the genus may be said to be represented. Thoughts of a train to catch hindered taking notes of many

of these, but good forms of *C. Curtissi*, *C. Hookerianum*, *C. Lawrenceanum*, *C. selligerum*, *C. Roezlii*, *C. Chamberlainianum*, *C. callosum*, and other popular kinds are too well done to pass without mention. Hybrid raising is going on briskly, scores of the seedlings showing flower from crosses innumerable. The very best varieties only are used, and remarkable as Mr. Chapman's success has been, there can be no doubt that he will be still more heard of in the near future as the hundreds of carefully raised and magnificently grown seedlings flower. They receive their first shift when very young, just as the tiny germs commence their second growth, and when it is said that these in many instances form strong plants with leaves 6 inches in length, not much doubt can exist as to the wisdom of the proceeding. Many unique specimens are here of such rare varieties as *C. insigne Sandersonianum* and *Eyerianum*, *C. venustum Measurestanum*, *C. Ernestii*, and the only plant in Europe of *C. Mrs. F. L. Ames*, *Oncidium ornithorhynchum album*, that has borne seventeen spikes, part of the original plant of *Cymbidium Lowiano eburneum*, *C. Winnianum*, the natural hybrid, *C. Traceyanum*, and a fine lot of *C. Lowianum* and other popular species are grown in quite a cool house, their condition testifying to the merits of this system of growth. Another large house is filled with *Vandas*, *Aerides*, *Saccocaulums*, and other distichous-leaved kinds, *Vanda tricolor* calling for especial mention, as also does a fine batch of *Odontoglossum citrosum* suspended from the roof in the same house. Another compartment is filled with *Lycastes*, all the best in this genus being represented, and it almost goes without saying that they are in splendid health. In one more house that I had to leave, greatly regretting that time had passed so quickly, the same capital order, the same fine specimens and grand health were observed, a batch of the beautiful *Miltonia Roezlii* and its variety *alba* being the best plants in flower.

Dendrobium cucullatum.—This greatly resembles *D. Pierardii* both in habit and the colour of its flowers. It does well with less heat than many of the deciduous Dendrobiums, though this is perhaps not advisable if a warm house is at command. The pseudo-bulbs are thinner at the point than at the base, and often attain a length of upwards of 4 feet, the long raceme of flowers thus formed being very attractive. The sepals and petals are a pale rose, the lip broad and spreading, yellowish white. Some plants I saw recently were making good progress on blocks lightly dressed with Moss, and from its habit it is also suitable for growing in baskets suspended from the roof.

Leilia Wyattiana.—I recently saw a fine plant of this pretty species which is far from common. The spike appears in the apex of the compact, smooth raceme from three to five flowers, each about 5 inches across. These are not so broad in the segments as some kinds, but distinctly and prettily marked. The sepals and petals are almost pure white, only a very faint tinge of colour being observed; the lip is marked with purple and yellow. It thrives in an ordinary Cattleya house temperature, and should be grown in pots in a compost consisting of rough turf peat and Sphagnum. The treatment as to growth and rest resembles that of *L. purpurata*, with which fine species it is found growing naturally in Brazil.—H.

Miltonia Warscewiczii.—This singular species is quite distinct from all other Miltonias, and has been called *Oncidium* by some authorities. On account of this distinctness and its obvious utility as a garden Orchid, it should be much grown. The pseudo-bulbs grow erect, each about 4 inches high. The panicles of flower issue from the base,

each carrying from twenty to thirty flowers, according to the strength of the plant. The flowers are singularly coloured and constructed, the sepals and petals chestnut-brown, with a yellow, wavy margin, the lip rosy purple, convex on the upper side, margined with white. The blossoms last well in good condition, but must not be allowed to remain on the plants too long, especially if the latter are weak. This Miltonia likes a position not too much shaded, yet not enough exposed to damage the foliage, and the coolest end of the Cattleya house is quite warm enough for it. A support is unnecessary, the plant being of a clinging nature and not grass feeding. Equal parts of peat fibre and Sphagnum, with abundance of crocks and charcoal finely broken, will grow it well, this material being firmly bedded around the base of the plants, the latter elevated a little distance above the rim of the pot. During the time growth is most active the roots must be kept very moist, and even in winter they ought never to become quite dry, this treatment being unsuitable to most of the Peruvian and Colombian Orchids. M. Warsewicza was introduced from Peru in 1869.

Disa Veitchii.—A plant of this pretty hybrid is now in flower with me, the spike 2 feet high and containing eight blossoms, each about 3 inches across. The hooded upper sepal is pale rose, the lower one bright carmine. The lip is also very bright outside, while the inner concave portion is nearly white, with many deep crimson spots. The growth of the plant is more vigorous than that of *D. grandiflora*, but very similar to it in appearance. Offshoots are freely produced, rendering its propagation easy if care is taken with them. The best position for it is quite a cool house close to a ventilator or door, and abundance of water is needed while growing, no resting season, or rather no drying off, being required. *D. Veitchii* was raised by crossing *D. racemosa* with *D. grandiflora* in Messrs. Veitch's nursery, and first flowered in 1891.—R.

Oncidium lamelligerum.—This makes a fine companion to *O. macranthum*, which it much resembles in habit and manner of flowering. The blossoms are larger than those of *O. macranthum* and even more graceful in outline. The upper sepal is short and broad, the lower ones longer and narrower, and with the crisped wavy petals a deep brown, with yellow margins and spots. It is a native of Ecuador and thrives under cool conditions, the cultural routine being the same as that for *O. macranthum*. Good drainage to the pot and a rough open compost are very essential.

Stanhopea tigrina.—Several fine plants of this Orchid are now flowering at Chadacre Hall, several spikes having from two to four blossoms on each. Although not so refined in appearance as *S. grandiflora*, this must certainly be regarded as one of the best in the genus. The flowers, as is usual in the genus, are pushed downward from the ripened pseudo-bulb, and each one measures from 6 inches to 8 inches across. They are most peculiar in shape and almost impossible to describe; the sepals and petals are dull rouge, marked with reddish purple. The lip is similar in colour, and consists of a deep cavity overhung by the column, the side lobes of the labellum being elongated to horizontal processes about an inch in length. These flowers are strongly scented, a strong aromatic odour pervading the whole house wherein they are, but, unfortunately, they last a short time only in good condition. The culture of this Orchid is by no means difficult, more depending upon cleanliness and freedom from insect pests than anything else. They must be grown in baskets on account of the pendulous spikes, and these need not be very deep, but should have the bottoms open and free, several pieces of charcoal being placed on the lower rods or wires as the case may be. The compost for strong plants may consist of two-thirds of Sphagnum Moss, the remaining third being made up of peat and loam fibre in equal proportions, an ample quantity of crocks and

charcoal being mixed with it to ensure perfect drainage and aeration. They do best in the East India house, though good results may be obtained by growing them in an intermediate temperature, the important point being to keep up plenty of atmospheric moisture, thus keeping red spider in check. Frequent syrings may be given with the same end and plenty of water while the growth is active. Very little water is needed in winter, provided the atmosphere is fairly moist. *S. tigrina* is one of Messrs. Low and Co.'s introductions from Mexico, and it was first imported about 1840.

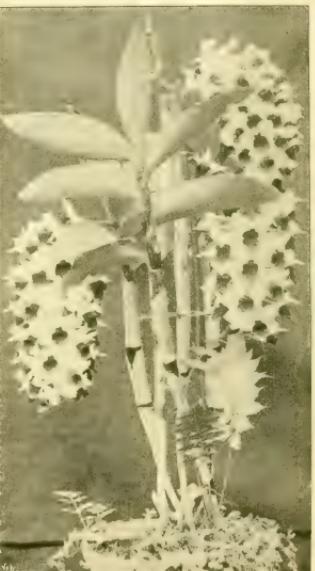
DENDROBİUM THYSIFLORUM.

THOUGH showing a small plant only, the characteristic growth and graceful racemes of flower are well shown in the annexed illustration of this species. It is one of the most common, yet one of the best and most useful

of a warm, moist house they would not seem of any value, not a green leaf to be seen on them, and the pseudo-bulbs shrunk and shrivelled out of all shape. It is not to the bulbs or leaves, however, that experienced growers look; they note the plump, round eyes at the base, knowing well that with heat and moisture the former will swell up to something nearly approaching their normal size, and the latter will break freely and soon form new pseudo-bulbs, to take the place of any that are dead or fair gone in the plant. The process of establishing this Orchid does not differ materially from that of any other Dendrobie, and as this has been often described in detail, it is only necessary here to say that, for the first season at least, considerable care is necessary in watering, shading and selecting the compost. The plants should at first be potted up in clean crocks alone, removing a few of these from the top and substituting a little peat and Moss as this is seen to be necessary, that is when roots begin to push. In potting established specimens disturb them as little as possible, but allow no sour peat or other material to remain, and when filling up with the new peat and Moss, place plenty of rough crocks and charcoal with the layers. The plants should be kept well above the rims, as the new shoots start very low and are apt to damp off in the earlier stages if water lodges about them. They do not require so long a growing season as the deciduous members of the genus, but *D. thyrsiflorum* does not finish up quite so quickly as the smaller-growing evergreen kinds. The plants may be grown either in the Cattleya house or with other Dendrobies in the East India division, but if in the latter they must be taken out for a month or two during the resting season, or they will not flower satisfactorily. Though less water is required at this time than when growing freely, they must not be dried to any great extent. This is often the cause of their failing to start properly in spring, the fluid forcing up flowers in lieu of growth, to the great detriment of the plant. If frequently dewed over with tepid water while growing and the atmosphere kept nicely moist, insects are rarely troublesome. As soon as the flower-buds show their colour in spring, the plants should be placed in a cooler and rather drier house, as the blossoms will then come on slowly and attain their full size and colour, they also lasting better than if grown in heat. The usual time they last is from a fortnight to three weeks, and very beautiful do well-flowered plants look when associated with Cattleyas, Odontoglossums, and other Orchids in the flowering house. *D. thyrsiflorum* is a native of Moulmein, whence so many fine Dendrobies have been introduced, and has been in cultivation since 1864.

Mr. T. B. Field, Ashwellthorpe Hall, Norfolk, who sent us the photograph from which the illustration was prepared, sends us the following note regarding the plant:—

The illustration shows a recently imported plant. It is one of the showiest of the Dendrobie family, and also one of the easiest to cultivate. Given proper attention, this Orchid will soon recover after a long voyage and well repay the enthusiast for all the attention he may give it. It does well in an intermediate house, and I know of no Orchid more useful for decorating the drawing-room than the one in question. I have had plants in bloom standing in the room for



Dendrobium thyrsiflorum. From a photograph by the Hon. Hester Tyrwhitt, Ashwellthorpe Hall, Norfolk.

of the evergreen kinds, easily grown and very free blooming. The ground colour of the sepals and petals varies considerably, embracing pure white and various tints of flesh and rose colour. The lip is the same in all cases—a deep golden yellow that enhances the beauty of both the pure white and rosy tinted segments. It is a free-rooting and vigorous-growing species, and may with advantage be given fairly wide pots, the drainage being ample, never less than half their depth. The compost should also be used in a rough state, the peat being of the best quality and mixed with half its bulk of clean, fresh Sphagnum. Newly-imported plants of this Orchid often arrive in such a condition, that to anyone unacquainted with the influence

three or four weeks, and when taken out they were apparently none the worse.

THUNIA MARSHALLIANA.

TAKEN altogether, this may be described as the most useful of the Thunias and a capital garden Orchid. The earliest flowers are now open, and where a good stock is grown the display may be kept up for a couple of months at least, due care having been taken to show them in various temperatures with this end in view. The flowers are produced on drooping scapes from the joints of the stems before they come to maturity, and are pure white on the sepals and petals, with a golden-yellow-fringed lip veined with orange-red. The culture of this Orchid is very easy, provided enough heat is at command. The stems may either be potted separately or three or four in a pot, the former plan being on the whole the best, as it ensures simultaneous flowering; whereas if grown several in a pot, one may be in flower before the rest. It is easy to group several pots together, by this means making a fine show. The stems at potting time will be quite leafless and the roots quite dead. These should be mostly cut away, only a few of them being left to steady the stems, which should be placed with their base just resting on the compost when finished. The compost may consist of equal parts of peat, loam fibre, and Sphagnum Moss, the last being as fresh as possible and chopped up rather finely. To this add a sufficient quantity of finely broken crocks to hold the whole mass rough and open, but add no sand, as in this rough kind of compost it soon gets swilled down among the drainage, choking it up and preventing its free action. Single pots may be of the 5-inch size, and a couple of inches should be allowed for drainage. As soon as the plants are potted up they should be placed in the warmest house at command and a light, sunny position. Frequent syringing is of advantage, as it will cause the buds at the base to break more easily, but only very little water must be given at the roots until they are getting well out into the compost. When they reach the sides of the pots a full supply will be demanded, for the growth is rapid and the plants gross feeders. Little manure water made from well-diluted cow manure and soot is helpful after the pots are full of roots and until the flower spikes peep out of the top of the stem, when it should be discontinued. The atmosphere must be kept very moist and plenty of sunlight allowed until the flowers appear; while they are in bloom a shady position and drier atmosphere help to conserve the flowers. When these are over the foliage soon commences to decay and fall off, when the water supply must gradually be reduced, until in winter none is required. From November until they again begin to grow they may, in fact, be turned out of the pots and hung up in bundles in any out of the way corner of the house. It is very important, however, that they are kept warm and dry, the temperature never dropping at this time below about 55°. *T. Marshalliana* is a native of Moulmein and was introduced about 1842.

Miltonia vexillaria superba.—This beautiful variety well merits its name, the flowers being a beautiful deep rose, suffused with a warm tint of crimson on the sepals. The lip is lighter in ground colour, stained and lined with magenta. Although said to be an autumn-flowering plant, I saw it recently in bloom, the blossoms equalling the best forms in size and very freely produced. This Orchid likes rather warmer treatment than the majority of *Odontoglossums*, from which genus it has been separated by modern botanists, and if kept free from the attacks of thrips and liberally treated is as easy as most Orchids to grow.—H. R.

Vanda corollifera Boxallii.—This is one of the most charming of the smaller growing Vandas, and a distinct and pretty variation from the typical form. The flowers, produced on erect escape about a dozen on each, have nearly white

sepals and petals with deep violet lip. The type has long been known, but this variety was introduced as lately as 1877 from India. It requires more heat than the larger growing kinds, such as *V. suavis* and *V. tricolor*, and thrives well if planted in wood baskets suspended in a light position not far from the roof glass in the East India house. The plants require plenty of water when well established and growing freely, and even in winter must never be dried off entirely.

Cattleya Mossiae majestica.—The varieties of this superb Cattleya seem almost endless, and though some are not distinct enough to warrant the varietal names so freely lavished upon them, others are really worthy of this distinction. This form came under my notice a few days since, and I thought it one of the finest I had ever seen. The blossoms were upwards of 8 inches across, the sepals and petals of a deep rose purple, the lip of fine form and delicately fringed. The whole of the throat was covered with a large orange blotch, the sides pure white, after the style of C. Mendeli. The frontal part streaked with bright crimson. The whole of the varieties of this fine Cattleya are natives of La Guayra, whence the typical form was introduced in 1836.—R.

SOCIETIES AND EXHIBITIONS.

CRYSTAL PALACE ROSE SHOW.

JULY 4.

THOUSANDS of visitors were attracted to the Palace on July 4 by the great exhibition of the National Rose Society, and although the quality of the exhibits was certainly not up to the average, the roses being flimsy, and owing to the excessively hot weather, which has prevailed for such a long time, yet the competition was sufficiently keen to make the show one of great interest and beauty. The display was certainly the poorest that has been seen for many years, although growers from all parts of the country were well represented. We were greatly pleased with the old-fashioned garden Roses, single and Polyantha varieties, and the very beautiful Briers. The special prizes were won by the following exhibitors: For the best bloom of any Rose, except Tea or Noisettes, shown by amateurs, the silver medal went to Mr. H. Machin, for a fairly large and beautifully formed specimen of Her Majesty. The silver medal for the best Tea went to Mr. O. G. Orpen, for a good fresh flower of The Bride, and the same exhibitor gained the Harkness challenge cup. The principal amateur exhibitor was the Rev. J. H. Pemberton, who obtained the Memorial gold medal for thirty-six singles and the champion challenge trophy. In the nurserymen's classes the chief honours were won by Messrs. Harkness and Son, Bedale, who carried off the champion challenge trophy, the gold Memorial medal, and the silver medal for the best Tea Rose. Mr. B. R. C. Cant gained the silver medal for the best bloom of any other Rose; the Dickson challenge cup, offered by Mr. C. J. Graham, went to Mr. Frank Cant, and a piece of plate for the best six Roses grown within eight miles of Charing Cross to Mr. R. H. Langton, who also gained the piece of plate for four bunches of Teas, three trusses of each.

NURSERYMEN.

In the great class for seventy-two Roses distinct, single trusses, Messrs. Harkness and Sons, Bedale, secured the first prize with an exceedingly good, though somewhat uneven collection. While several blooms were imperfect, many were very fine. The best were John Stuart Mill, Gustave Piganeau, Innocente Pirola, Edouard André, Duchesse de Morny, Fisher Holmes, Comte de Raimbaud, Dr. Andry, Mrs. John Laing, A. K. Williams, Mine. Cusin, and Ulrich Brunner. The second prize went to Messrs. F. Cane and Co., Colchester, for a very nice collection, including good blooms of Reynolds-Hole, Mme. Guielzuit, Captain Hayward, Catherine Mermet,

Abel Carrière, Chas. Lefebvre, John Stuart Mill, and Earl of Dufferin. For forty Roses distinct, three trusses of each, Messrs. Harkness were again first with a good collection. The best varieties were Mrs. John Laing, Alfred Colomb, Lady Mary Fitzwilliam, Ernest Metz, Innocente Pirola, Dr. Andry, Marie Baumann, Mme. G. Luizet, Captain Hayward, and Helen Keller. The second prize went to Mr. B. R. Cant for an exhibit but very slightly inferior to the first prize lot. His best blooms were Chas. Lefebvre, A. K. Williams, Ulrich Brunner, Merveille de Lyon, Fisher Holmes, Victor Hugo, Ernest Metz, and Etienne Levet. For forty-eight distinct singles, Messrs. D. Prior and Sons, Colchester, were placed first with good blooms of Her Majesty, Earl of Dufferin, Captain Hayward, Victor Hugo, Eugene Verdir, Francis Michelon, Duke of Edinburgh, A. K. Williams, Baron Alphonse de Rothschild, &c. Messrs. Burrell and Co., Cambridge, who were a good second, had nice flowers of Glory Lyonnaise, Duchesse de Morny, Jeanne Souperf, Comte de Raimbaut, A. K. Williams, Maurice Bernardin, Mr. Chas. Turner of Slough, gained the first prize for twenty-four distinct singles, with a very even exhibit of well-formed blooms. The best were Duke of Fife, The Bride, Beauty of Waltham, Mrs. John Laing, Her Majesty and Marie Baumann. The second went to Messrs. J. Townsend and Sons, Worcester, who had good blooms of Fisher Holmes, A. K. Williams, Gustave Piganeau, Nipheta and Prince Arthur. Messrs. D. Prior & Son were first for twenty-four trebles, showing Mrs. John Laing, Abel Carrière, A. K. Williams and Her Majesty in fine condition. The flowers were mostly small, though fairly well formed. Messrs. G. and W. H. Burch were a good second, with Innocente Pirola, Catherine Mermet, Alfred Colomb, Mme. Guielzuit, Gustave Piganeau, Mrs. John Laing and Star of Waltham. For twelve distinct singles, Mr. Frank Cant was first, with a good box containing Lady Arthur Hill, Lady Helen Stewart, Marchioness of Dufferin and Helen Keller. Mr. B. R. Cant was second. Messrs. Alex. Dickson, Co. Down, were an excellent first for eighteen singles, showing good blooms of Capt. Hayward, Mrs. Jewitt, Countess of Rosebery, Star of Waltham, Prince Arthur, Mrs. Geo. Dickson, &c.

AMATEURS.

In the trophy class for thirty-six singles, Rev. J. H. Pemberton was deservedly first for a very meritorious collection, uniformly good, in perfect condition and of good form—certainly a very beautiful exhibit, one of the very best in the show. The finest blooms were Her Majesty, Marie Baumann, Ulrich Brunner, Caroline Testout, François Michelon, General Jacqueminot, Spenser, Comte de Raimbaut, Gustave Piganeau, A. K. Williams and Horace Vernet. Mr. E. B. Lindell, of Hitchin, was a very good second, his flowers being a very good, well-grown and of fair size. Merveille de Lyon, Mme. Houssman, Duchesse de Morny, Dr. Sewell, Ulrich Brunner, Fisher Holmes, Maurice Bernardin and Marie Baumann were the best. In the second class for thirty-six singles, Mr. Wm. Boyes, of Derby, was first, about half of his collection being of great excellence and the rest slightly inferior. The best were Thomas Mille, Mme. Houssman, Duke of Wellington, Mrs. John Laing, Horace Vernet and Her Majesty. Rev. J. H. Pemberton was a very close second, with good blooms of Caroline Testout, Jeannine Dickson, A. K. Williams, Mrs. John Laing and Her Majesty. For twelve singles of any Rose except Tea or Noisette, Mr. H. W. Machin, Worksp, was first with an excellent set of Her Majesty, all neat, well-formed blooms. The second went to Mr. E. B. Lindell for nice flowers of Merveille de Lyon. Mr. E. Mawley, of Berkhamsted, was first for twenty-four singles, the blooms of A. K. Williams, Baroness Rothschild, and Etienne Levet very fine. Mr. W. C. Romaine, Old Windsor, was a close second with good blooms of The Bride and Ulrich Brunner. For nine singles of any Rose except Tea or Noisette, the first went to Mr. Alf.

Slaughter, of Steyning, who had a box of rather old blooms of Alf. Colomb. Mr. R. E. West, Reigate, was second with Ulrich Brunner. For eight distinct trebles, Rev. J. H. Pemberton gained the first prize with some fine blooms, including Gustave Paget, A. K. Williams, H. Majesté, and Mrs. John Laing. Mr. H. W. Machin was second with another good exhibit containing Ulrich Brunner, M. Rodocanachi, and Her Majesty. Mrs. Mahlon Whittle, of Leicester, was first with nine singles, very beautiful flowers among them Kaiserin Victoria, La France, Alf. Colomb, and Mme. Custer. Mr. Conway Jones, of Gloucesterthorpe, was a close second. Mr. Mahlon Whittle was again successful for six distinct trebles, showing good specimens of Mrs. John Laing, La France, M. Rodocanachi, and Alf. Colomb. Dr. Tucker, of Swanley, was a good second. For nine distinct singles, Mr. Henry Foster was first with a very good even collection, and the second went to Mr. George Males, of Hitchin. Mr. Harcourt Landon, Brentwood, won the first for four trebles, and the second went to Mr. Jas. Parker, of Headington. For six singles of any Rose except Tea or Noisette, the first went to Mr. Rivers Langdon, of Hendon, for a well coloured lot of Mrs. John Laing. Dr. Tucker was second with the same variety. Mr. O. G. Orpen was first for a very fine exhibit of twelve singles, having good blooms of The Bride, Maman Cochet, and Cath. Mermet. Mr. Henry Adamson, of Bedale, was a close second. For eighteen distinct singles, Mr. Percy Bernhard was first with an excellent exhibit containing good blooms of Annie Wood, Alf. Colomb, Merveille du Lyon, and Ulrich Brunner. Mr. R. E. West was a good second with Ulrich Brunner, Dr. Andrew Abel Carricre, and Capt. Christy. Mr. E. B. Lindsell was first for six singles of varieties sent out by Messrs. Dickson and Sons, Rev. J. H. Pemberton being second. For six singles grown within eight miles of Charing Cross, Mr. Rivers Langdon was an excellent first, showing fine flowers of Mrs. John Laing and M. Rodocanachi. Mr. Keppel Gifford, of Streatham, was second. For six new Roses, the Rev. J. H. Pemberton was first, and Mr. J. Bateman second. For twenty-four Teas or Noisettes, Messrs. D. Prior and Son were first with a clean and fresh exhibit, though the flowers were rather small and thin. The best blooms were Catherine Mermet, Mme. Cousin, Caroline Kuster, The Bride, Maman Cochet, and Ernest Metz. Mr. Frank Cant was a close second with a very similar set, containing Ernest Metz, Waban, Maman Cochet, Corinna, White Perle, and Golden Gate. For eighteen Teas or Noisettes, Mr. J. Mattock, of Oxford, was a fairly good first, showing Souvenir de S. A. Prince, Ernest Metz, Mme. de Watteville, Mme. Hoste, Catherine Mermet, Anna Ollivier, and Ethel Brownlow. The second went to Messrs. Burrell and Co., Cambridge. Messrs. Frank Cant and Co. were first for eighteen Teas or Noisettes (singles), a fine exhibit of well-formed flowers. Mme. Cousin, Maman Cochet, Ethel Brownlow, Catherine Mermet, Mme. Lambard, Innocente Pirola, Ernest Metz, and The Bride were all good. Mr. John Mattock, of Oxford, was a good second, showing Ethel Brownlow, Catherine Mermet, and Jean Durher in good condition. For twelve Teas or Noisettes (singles), Mr. O. G. Orpen was an excellent first with a fine bloom of Maman Cochet. Mr. Alfred Tate was second. The same exhibitor was first for eighteen Teas or Noisettes (singles), a good lot; the second went to Mr. C. Grahame. Mr. Rivers Langdon was first for nine Teas or Noisettes, showing beautiful blooms of Cleopatra, Nipheta, Maman Cochet, and Ethel Brownlow. Mr. Croft Murray was a good second. For twelve Teas or Noisettes (singles), Mr. J. Parker, of Oxford, was first, with a collection only good by comparison with the others, which were extremely feeble. Mr. C. Grahame was first for nine singles of any Tea or Noisette, showing a neat box of Maman Cochet. Mr. O. G. Orpen was second with a well-coloured lot of Madame Cousin. For eight trebles, Mr. C. Grahame was again first,

and Mr. Wm. Boyes a good second. For twelve bunches distinct, Messrs. Paul and Son, Cheshunt, were first with a very pretty and nicely staged exhibit, containing A. K. Williams, Viscountesse Fontaine, Camille de Rohan, Abel Carricre and Marie Baumann, all in good condition. Mr. Geo. Mount, of Canterbury, was an excellent second. For nine bunches of Teas or Noisettes, the first went to Mr. J. Parker, who had a very charming collection, clear and fresh, though the flowers were small. Mr. H. W. Machin was second. Mr. Conway Jones was first with a nice box of Nipheta in the class for six singles of any Tea or Noisette, and Mr. J. Parker was second with Comtesse de Nadiaille. For four distinct trebles, Mr. Rivers Langdon was first with well-formed blooms of Maman Cochet, Mme. Cousin and Ethel Brownlow. Mr. J. Parker was again second. For twelve single blooms of any white, the first prize was gained by Messrs. Alex. Dickson and Sons for a very fine box of Marchioness of Londonerry, and the second by Messrs. Harkness and Sons. Mr. John Mattock was successful for twelve singles of any yellow, showing a lovely box of Comtesse de Nadiaille. Equal seconds were awarded to Mr. G. Mount for Marie Van Huett and to Messrs. Frank Cant and Co. for Mme. Hoste. For twelve single bunches of Hybrid Teas, the first was won by Messrs. Alex. Dickson and Sons for a fine lot containing large blooms of Mrs. J. Grant, La France, Cath. Testout and Lady Mary Fitzwilliam. Messrs. D. and W. Croft, of Dundee, were second. A very beautiful box of Horace Vernet, shown by Messrs. Frank Cant and Co., took the first prize for twelve singles of any dark crimson, Mr. G. Mount being second with Fisher Holmes. For twelve singles of any crimson, Messrs. Alex. Dickson and Sons were first with a magnificent display of Captain Hayward, Messrs. E. Mack and Sons being second. For twelve singles of any Tea, Mr. J. Mattock was successful, showing exquisite blooms of Catherine Mermet. Messrs. Harkness were a close second with a finely-coloured box of Mme. Cousin. Mr. G. Mount was successful with Mrs. John Laing in the class for twelve singles of any light variety, Messrs. W. and D. Croft coming second with the same kind. A very delightful exhibit was that of Messrs. Paul and Son, Cheshunt, the first prize lot in the class for thirty-six bunches of garden Roses. It was a splendid lot of charming varieties, among them Gustave Regis, W. A. Richardson, White Pet, Rêve d'Or, Crimson Rambler, Safraon, Ma Capucine, and Mme. Falcoff. Messrs. Geo. Cooling and Sons, Bath, were a good second, with Marquis of Salisbury, Homière, Princesse de Monaco, Papillon, Mme. Falcoff, and Ideal. For twelve new Roses, Messrs. Alex. Dickson and Sons were first, showing among others Mrs. E. Mawley, Mrs. Green, Hon. Edith Murray, and Marchioness of Downshire. Messrs. Frank Cant and Co. were second. Messrs. Dickson were again first for twelve singles of a new Rose, showing a splendid box of Mrs. Sharman Crawford. Messrs. Geo. Cooling and Sons were second. For nine bunches of single Roses, the first went to Messrs. D. and W. Croft, Dundee, for a charming exhibit, including Meg Merrilles, Anne of Gierstein, Amy Robart, and Bradfordine. The Rev. J. H. Pemberton was easily first for nine bunches of garden Roses, a delightful collection including Marquis of Salisbury, Rose Mundi, Paul's White, Red Provence, and Leopoldine d'Orléans. Mr. H. W. Machin took the first for eighteen bunches of garden Roses, showing Red Pet, Mignonette, Macrantha, Maiden's Blush, and Cecile Brunner. Mr. Alf. Tate was an excellent second. In a similar class for nurserymen, Mr. Mattock was a capital first, and Messrs. D. and W. Croft second. For a display of Roses, Mr. Mattock was again successful, showing a quantity of lovely Rose-buds in great variety, tastefully arranged in bouquets, baskets, and small bunches. The same exhibitor was first for twelve bunches of button-hole Roses, showing a very lovely collection, among which we noticed Anna Ollivier, Ma Capucine, Rubens, Gustave Regis, The Bride, and Nipheta. Messrs.

Townsend and Sons were a good second, with particularly good examples of Ideal and Mme. Falcoff.

MISCELLANEOUS.

The miscellaneous exhibits were not so numerous as usual, but by no means deficient in quality. A large and most brilliantly effective group of fine-foliated plants and tuberous Begonias was put up by Messrs. John Laing and Sons, Forest Hill. Some interesting Penepetes, finely-coloured Caladiums, Crotons, and Dracennas were all noticeable. The Begonias were of remarkable size, very clear and pure in colour and of perfect form. From the same firm came an extensive collection of hardy flowers, containing many exquisite and uncommon varieties, and making a very brilliant show. The neat little Sibthorpia europaea variegata and some very fine Tufted Pansies were there, also Pentstemons in variety. Particularly charming were the lovely varieties of Gladioli, in the softest and tenderest shades of pink and rose. A smaller lot of hardy flowers, chiefly Liliums and Calochorti, came from Messrs. Wallace and Co., Colchester, and contained many uncommon kinds, all in excellent condition. A nice collection of hardy herbaceous stuff was staged by Mr. M. Pritchard, of Christchurch, and included good examples of Lilium Brownii, L. testaceum, Scadoxus canescens, Gaillardia magnifica, and Camassia pulcherrima. From Messrs. Carter came a large and very charming collection of Sweet Peas, containing innumerable varieties of every imaginable shade of colour. Messrs. Cheal and Sons had a gracefully staged group of hardy flowers and a very beautiful collection of Tufted Pansies. Another good collection of Sweet Peas was put up by Mr. Fester, of Havant, and a large group of cut Roses by Messrs. Laing and Sons.

A few particulars respecting the recent exhibition of the National Rose Society at the Crystal Palace may be of interest to some of your readers. Owning to the trying nature of the weather and the extremely forward season the number of blooms of exhibition Roses staged in competition was 5064, or nearly 800 less than the average for the eight previous metropolitan shows of the society, and less than at any of the last twelve exhibitions except 1893. England, Scotland, and Ireland were all represented, and for the first time a Scotch firm competed for the nurserymen's champion challenge trophy. Roses came from no fewer than twenty-one different English counties, while the total number of exhibitors amounted to seventy-three, sixty-one of whom were prize-winners.—EDWARD MAWLEY, Hon. Sec., X.R.S.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, July 14, in the Drill Hall, James Street, Westminster, 1 to 5 p.m. Special prizes will be offered for Roses. At 3 o'clock a lecture will be given by the Rev. J. H. Pemberton on "New Roses."

The weather in West Herts.—A very hot week, the temperature in shade rising above 72° on each of the last six days, and on two of these days exceeding 80°. At 2 feet deep the temperature of the ground is now 3° above, and at 1 foot 5° above the average for the time of year. Since the beginning of the month about a quarter of an inch of rain has fallen, but the soil still continues very dry, no measurable quantity of rain-water having come through either person or gully over a fortnight. The last four days have proved very calm, the average rate of movement of the air at 30 feet above the ground being less than 3 miles an hour. On two days during the week the sun shone for over 12 hours, and on one of them for over 13 hours. During the afternoon of the 6th the atmosphere was remarkably dry. Indeed, at 3 o'clock the difference

between the readings of a dry bulb thermometer and one with its bulb kept constantly moist was as much as 15°.—E. M., Berkhamsted.

NOTES OF THE WEEK.

Begonia kwensis.—Some plants in baskets of this useful form in one of the greenhouses at Kew give an excellent idea of its worth in the greenhouse or conservatory. The flowers are of a glistening white and very freely produced.

Spiraea Aruncus.—This fine old perennial in deep loamy ground or near the water's edge attains to a large size, and equally so the large feather plumes of its creamy flowers. It is an excellent plant for isolation in the positions indicated.

Pelargonium Galilee.—This is one of the Ivy-leaved section, noteworthy for its compact, densely-flowered trusses and its great freedom. The clear rose colour of the flowers is exceedingly showy, and being a good double, is very useful for cutting.

Rose Crimson Rambler.—As a pillar Rose this is now very fine in the Royal Gardens at Kew, where it attains to some 10 feet or 12 feet high, and is literally covered with flowers. The plant possesses a fine vigorous habit of growth, while its great wealth of flowers is remarkable.

Prunella grandiflora.—In a broad mass of this now flowering at Kew the rose-lilac spikes of bloom make a very distinct show. It forms a quiet and pleasing group that with advantage may be more frequently seen in half shady spots in the border. The plant is only a foot high and quite free flowering.

Hieracium gymnocephalum.—This is a distinct species from Montenegro, forming very woolly tufts of leaves, after the manner of *H. pilosum*, but perhaps purer in the downy white of its shaggy leaves. The plant has a slightly branched inflorescence and yellow blossoms, and was recently in flower at Kew.

Lilium odorum japonicum.—At Kew, near the large Palm house, two beds are devoted to this grand trumpet Lily. Several clumps have two and three stems each, the latter supporting two and sometimes three of the finely formed flowers. Internally these are white, the reverse side being flushed with purple or chocolate.

Magnolia glauca.—A week ago we directed attention to the noble *M. macrophylla*, perhaps the largest of its race, while in the above we have certainly one of the smallest. Its flowers are cup-shaped and of a creamy shade, in size only some 2 inches across, and judging by a fair-sized plant at Kew, it is not a free-flowering species.

The old orange Lily (*L. coccineum*) is very beautiful just now at Kew. It is planted in large groups, usually amongst dark green evergreen shrubs, and the effect is splendid. It comes in at a happy time. The umbellatum Lilies are over and the general kinds scarcely commenced to bloom. The buff Lily (*L. testaceum*) was very beautiful too.

Chrysanthemum pallens.—This is of the *C. leucanthemum* type, but apparently a dwarf form that is very free flowering, and altogether more compact and nearer in appearance than *C. latilobum* and others of this group. The foliage is less fleshy and the edges heavily serrated, while the pure white flowers appear singly on stems each about 2 feet high.

White Jasmine.—No flower, perhaps, possesses a more grateful perfume than the common White Jasmine (*J. officinale*) now blooming so freely on many a cottage front or porch. The dainty twigs of bloom are specially suited for cutting, supplying, as they do, their own garnishing, and none more beautiful or pleasing than its own elegant leaves.

Chenopodium blennioides.—This is very charming each evening as it expands its light yellow flowers, and though of course quite a commonplace plant,

may do good service in the woodland or wild garden. And where there is Bracken in plenty in the latter, this Evening Primrose and the towering spires of the Foxgloves enhance the beauty of the landscape in no small degree.

Pratia angulata.—This plant in moist peaty soil is now quite a mass of its pretty pure white blossoms, forming as it were a perfect carpet of bloom. The whole plant is not more than an inch or so high, and might well carpet the ground where moisture-loving Lilies and the like are grown, or, again, as a ground work for some of the hardy Orchids that flower at this time.

Pyrerhum Parthenium The Queen.—Not having seen this in any other place leads me to think that it is not so much grown as it deserves. It grows from 12 inches to 16 inches high, and is one mass of bloom. It continues to grow and flower throughout the summer and autumn months, and I find the flowers very useful for cutting.—J. E., Nestell Priory Gardens.

Meconopsis Wallichii.—This fine Himalayan Poppy is now flowering at Kew, though the plants are not so strong nor so abundantly flowered as previous years. They are sufficiently so, however, to show the distinctive character of this handsome species, as well as its adaptability for cool, moist spots. Fresh seeds should be sown at once to secure flowering plants for a year hence.

White Lilies in village gardens.—In the present heat it is delightful to see the effect of the white Lilies in the cottage gardens in some of the midland counties, in, for example, those little stone villages in Gloucestershire with these Lilies in the half shade. The fact is very curious, but the older writers on gardening knew of two kinds of white Lilies, but this was forgotten for many years.

Book on Tulips.—Mr. Hartland sends us a little book about Tulips which, we hope, will be interesting and useful, and help to make the flower more popular. We do not notice the sequinedalian nomenclature of which he gave us an example in THE GARDEN, and trust he will find that the more he simplifies the names of garden plants raised in gardens, the better it will be for all of us.

The Dee Strawberry fields.—Employment is found at present for just 600 Strawberry pickers on the fields at Farndon and Holt, on the Dee. The recent rains have developed the fruit, and will prolong the season, much to the advantage of growers, who are doing exceptionally well, the market quotations being very satisfactory. Many tons of Strawberries are daily consigned to the large towns from these extensive fields.

The large white Bellflower (*Campanula persicifolia* alba grandiflora).—Masses of this fine Bellflower are very beautiful at Kew. It is one of the noblest kinds in the family, the flowers being large, of the purest white, and borne on rather tall slender stems. We like such groups as this in the flower garden in July. One can see this big-flowered Campanula at a distance and enjoy it better than is associated with anything else.

Primula imperialis.—In No. 7 greenhouse are some plants of this bearing the last few flowers. Sufficient remain, however, to show the fine rich orange tone, while the five or six whorls are ample proof of its profuse flowering. The plants appear exhausted almost by their flowering, and it is doubtful if these will again be satisfactory. Seeds, however, appear to be coming in plenty, so that it will be an easy matter to maintain a succession of flowering plants in the future.

Acantholimon glutinaceum.—A very pretty summer flowering rock plant of dwarf growth, and forming cushions of spiny leaves. From the base of the growths appear, many frail, somewhat zig-zag spikes of rose pink flowers. The plant is of fine growth and fairly abundant in gardens, much more so than the far rarer and more beautiful *A. venustum*, the latter not quite hardy in all winters; indeed, I lost the finest tuft I have ever seen in the severe winter of 1894-95, and which had taken some eight years to attain to

15 inches across. For several years this was a charming plant when in flower.

Coreopsis grandiflora.—It is doubtful whether any plant could flower more freely than this. At the present time at Kew a large bed about 12 feet across is devoted to this plant, and the myriad of its flowers and buds amply testify to its freedom. In those gardens where a large daily supply of cut flowers is needed this should be largely grown for cutting. Its clear canary-yellow flowers are very pleasing in a cut state, and the plant may be raised quite freely from seeds.

Genista tinctoria fl. pl.—For producing a fine trailing mass of flowers of a golden orange hue at this season this plant has perhaps no equal. Of special value is the fact that it is also well suited for dry, hot positions, as the plants now flowering in the rock garden at Kew amply testify. The heat and dryness of the present year so far have been great, and one's store of information may be increased by noting those plants that endure the same with impunity. The above is assuredly one of the number.

Dimorphotheca Ecklonii.—This distinct-looking plant, with its Marguerite-like flowers, was exhibited at the last meeting of the R.H.S. In its fleshly foliage alone there is a reminder of a giant form of Candytuft, though altogether more erect, and then the coming of the large blue and white Marguerite-like flowers provides a rare combination of colour and form. Externally the petals are of a deep amethystine-blue, a tint of the same also pervading the expanded blossoms, which are each about 3 inches across.

Japanese Irises.—These are beautiful now in many gardens. They have made a good move at Kew in growing them in a sort of bog formed in the pond between the Palm house and the museum, the effect of which is very pretty, especially of the simpler coloured kinds, such as the Large White. They come in to fill the time well after the German and other Irises have gone out. Here, as in many other things, the striped, variegated and semi-double kinds are not nearly so beautiful as the simpler coloured forms.

Dianthus barbatus magnificus.—In certain positions this free-flowering plant is now very showy. A large mass of it margined with the creamy white flowers of that dainty little Tufted Pansy Violetta is very effective, as may be readily surmised. Even along the plant is very effective by reason of the fine masses of its crimson flowers, and in soil neither too dry nor exposed the plants have flowered splendidly this year. Being easily grown and readily increased, a large stock may soon be secured where this is desired.

Inula Roylei.—When better known this handsome species will make a welcome and valuable addition to this group. The blossoms are of the largest size and of the deepest orange, the ray florets narrow and very numerous, in this respect somewhat resembling the typical *I. glandulosa*. The latter, however, has passed out of flower some time, while a few days since I. Roylei was in fine condition at Kew. The foliage of I. Roylei is large and broad, quite distinct from that of the species usually seen in cultivation. The plant is about 2 feet high and comes from the Himalayas.

Androsace lanuginosa.—This is among the best of midsummer alpines, very pretty and pleasing when it is represented by large examples, whose trailing stems flower freely on the rocky surface. It is surprising, too, how this plant remains in a temporary shade during the great heat. On very exposed surfaces and in shallow soil the growth is poor and the flowers inevitably so, but in a deep rooting medium, where the roots are comparatively cool, and where the plant receives slight shade, its silvery silken leaves and stems are very pleasing and its flowers charming. Some pretty patches are now in flower at Kew in the rock gardens.

Tufted Pansies from Hawick.—Mr. Forbes sends us from his well-stored nursery at Hawick a

great many beautiful Tufted Pansies, some of them handsome, but many show so much wire in the eye, with the exception of those mentioned below. The delightful effect which arises from the kinds mentioned should, we think, turn Mr. Forbes' attention to raising others of the same character. Some of the sorts like Hamlet and Sensation are not good, the colours being weak. The following are good, without any of the defects mentioned: Lyric, George Lord, H. Lander, Ophir, Seedling No. 1, Rose Queen, Mary Scott, Waymoy and Seedling No. 2.

Lychis chalcedonica.—The heads of blossoms now upon this plant are almost as vivid as in the Geranium, but are moderated by an abundance of leafage that renders it far more agreeable in a mass. Perhaps the more showy plant is the typical species, the heads being larger and the flowers more clearly defined than in the double-flowered variety. The former may be had abundantly from seeds, several dozen plants being secured from a sixpenny packet of fresh seed. The plant is among the showiest in the borders at the present time, and may be seen in large groups in the mixed borders at Kew, where the capitate heads are very conspicuous among many things now in flower.

Lilium croceum.—Though perhaps when compared with some of the best Lilies this is wanting in refinement, it is, notwithstanding, of considerable worth by reason of its robust nature and freedom of flowering. It comes among the early kinds, too, and is useful for associating with many things in the borders and shrubberies, and being of easy culture, perfectly hardy and cheap, may be grown in abundance in groups, if only for the purpose of brightening up shrubs of naturally sombre hue. The stout stems bear large clusters of erect orange blossoms, and these are now very effective in many gardens. At Kew large beds are devoted to it, particularly attractive being those adjacent to the large Palm house, where are hundreds of blossoms expanded.

A curious Iris.—In a note in the issue of June 27 there is a notice of a flower of Iris germanica Gracchus having six falls and six standards. I enclose you a photograph showing a still more remarkable variation, or sport of the indigenous Iris pseudacorus. As you will see, the flower is perfectly regular, but has four standards and falls and a four-branched stigma instead of three. The flower was in fact so regular in all other respects, that I must have looked at it often before I realised the difference, which I only did at last late in the evening, and as it was the last flower of the spike and would have been over by the morning, I photographed it by artificial light, which will account for the weakness of the photograph.—A. J. BLISS, *Buxton, Surrey.*

Rodgersia podophylla.—This handsome plant is worthy of note at the present time by reason of a grand group of it in the rock garden at Kew and for the fine effect produced by its handsome and distinct foliage. In these respects the plant is of exceptional value, especially so for its adaptability for association with fine-foliated plants in the rock garden or other positions. This plant is best suited, perhaps, for a moist peat soil, but more essential than soil for its free and full development are shade and moisture. Given all these, the plant attains fine proportions. Just now a fine group may be seen at Kew. Being perfectly hardy should render it the more valuable in the garden, for we are certainly not overdone with such bold and telling subjects as this. Native of Japan.

Carnation Uriah Pike.—I notice Mr. Burrell refers to this somewhat doubtful for the open air, and fears it may be too tall. Feared also that this plant has been so much praised only as a perpetual flowering variety, there may be others similarly in doubt concerning its value in the open air. My experience of the plant, however, is, that while it may be classed as among the best of the perpetual kinds, and, given special treatment, produce excellent results, it is, notwith-

standing, of far greater value to the majority of amateurs and private gardeners if treated as a border kind pure and simple. It withstood the severe test of January, 1895, without protection in Middlesex. When treated as a border variety it displays a good deal of the old Crimson Clove bloom that it undoubtedly contains, being dwarf, and very free. Any who may so desire may leave few plants unlayered in the border, and be treated to a sprinkling of autumn flowers quite equal to the finest. Plants that have flowered early in spring in pots will, if put out in the borders produce many flowers again in September when they are of much value. In short, this variety is likely to prove one of the most valuable outdoor kinds that have ever been distributed, and being possessed of finely formed flowers and a rich perfume should be freely planted. Pot plants, on the other hand, that have flowered in June of this year from layers of 1895 will, if retained in their pots without layering, stand in the open till October and given a cold house till January next, flower considerably in advance of this season's layers, and produce whole sheaves of bloom in early spring ensuing. Indeed, by carefully studying this variety and its requirements, flowers may be had for a long time.

PUBLIC GARDENS.

Open spaces.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, the Earl of Meath (chairman) presided. A donation was announced of £105 from the Drapers' Company. Satisfactory news was reported with regard to the laying out of the churchyard of St. James' Piccadilly, and St. Matthew's, Bethnal Green, faculties for which schemes were being applied for, and it was stated that St. Dunstan's-in-the-East Churchyard had been completed. An application was received from the Camberwell Vestry asking the association to lay out Camberwell Churchyard, and it was decided to obtain an estimate of the cost of the work. Amongst many grounds for which the aid of the association was sought, were disused burial grounds in Nelson Street, Woolwich, and Esher Street, S.E., Wilton Square Garden, N., a field at Chiswick, and vacant sites in Essex Road, N., at the Ilington Cattle Market, and a suggested riverside walk at Wandsworth. A letter was read from the St. Giles' Board of Works consenting to plant trees in Great Russell Street. Seats were granted for Camberwell, Chiswick, and other sites.

Proposed new park at Sydenham.—The Board of Works for the Lewisham District have submitted a memorial to the London County Council, asking the Council to acquire some land near Well's Road, Sydenham, as an open space and playground for the people there. The Parks and Open Spaces Committee have considered the matter, and in a report which they have drawn up they state that the area of the district under the charge of the District Board is 6544 acres, and the population in 1891 was 92,647, which number has since greatly increased, and is still increasing as the land in the district becomes covered with houses. It is urged that there is great need for an open space and playground for the artisan population resident in and around Well's Road, who are not able to go so far as the existing recreation ground at Forest Hill, which is maintained at the expense of the District Board, and is more than a mile away from the proposed open space. The land proposed to be acquired contains an area of 16½ acres, and will be purchased at £7000, of which sum the District Board offer to contribute one half. Having in view the desire of the Council to secure, whenever possible, some of the rapidly disappearing open land in the county for the purpose of playing or recreation grounds, the committee think the Council should embrace the opportunity which

now presents itself, and assist in the acquirement of the land. They have not yet decided definitely the manner in which the land shall be treated, but roughly estimate that it will cost £2000 to fit for the purpose of a public playground, and that the annual cost of maintenance will be about £700.

The value of public parks.—It is a stock criticism of modern civilisation that new cities and the new world reproduce in an astonishing short space of time the evil conditions of the old. One of these evils is the overcrowding of cities, and the absence of fresh air reserves and open spaces. It is interesting to find that in Australia steps are being taken in good time to meet this evil. In New South Wales (according to the *Health News*) it has always been the policy of the State to provide the residents of incorporated towns with parks and reserves for public recreation, and the city of Sydney contains within its boundaries an extent of parks, squares, and public gardens larger than exist in most of the great cities of the world with regard even to area. They cover altogether 748 acres, or 26 per cent. of the whole of the city proper. In addition to these reserves, the inhabitants of Sydney have the use of 750 acres, formerly reserved for the water supply of the city, but now known as the Centennial Park. This magnificent recreation ground has been cleared and planted, and is laid out with walks and drives, so that it is likely to become a favourite resort with the citizens. In addition to these reserves the Colonial Government dedicated to the people in December, 1879, a large area of land, situated within easy distance of the metropolis. This estate, now known as the National Park, with the additions subsequently made in 1880 and 1883, contains a total area of 36,320 acres, surrounding the picturesque bay of Port Hacking, and extending along the southern coast towards the mountainous district of Illawarra. It is covered with magnificent virgin forests; the scenery is charming, and its beauties attract thousands of visitors. In the country districts, reserves existing often over one million acres, have been provided as temporary commons, whilst considerable areas have been from time to time dedicated as permanent commons attached to inland townships, which are otherwise well provided with parks and reserves within their boundaries. A recreation ground designated Kung-gai Chase, and situated on the shores of the Hawkesbury River, was dedicated in December, 1891, for public use. The area of the Chase is 35,300 acres, and comprises some of the most romantic scenery in the colony.

Damsons from seed.—A subscriber in the south of Russia writes to ask readers of THE GARDEN if seeds of English Damsons will produce Damsons or wild Plums. Will some reader kindly answer from experience?

The late Mr. Peter Inchbald.—I have pleasant memories of conversations with the late Mr. Peter Inchbald, a man of science at York, whom I visited occasionally when living at Hovingham, and I was then always much impressed by his frank, open-hearted, kindly manner and the readiness with which he imparted valuable information from his extensive store of knowledge of plants, birds and insects. I can imagine how his fortunate students must have venerated him. At that time he usually spent his summer holiday botanising in the Riviera. A good man, of whom it would be superfluous to say, "Peace to his ashes!" —W. M.

Names of plants.—*H. u. W.*—Colombia grandiflora.—White Cluster Rose.—We believe your Rose to be Bennett's seedling, syn. *Torebyana* (*Ayrshire*).—*Constant Reader*.—Lilium testaceum.—*A. T. B.*—1. *Cratagaria Azorolas*; the others, we think, are correct.—*C. E. B.*—1. *Sedum dasyliphylum*; 2. *Polygonum Borneense*; 3. *Polygonum spicatum*; 4. *Hypolepis involucrata*.—*Ad. Nisbet*.—Kindly furnish specimen.—*Wm. H. C.*—1. *Campanula Hebe*; 2. *Oscularia corniculata rubra*.—*J. McLellan*.—*Lyttonia hybrida*.

No. 1287. SATURDAY, July 18, 1896. Vol. L.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

FLOWER GARDEN.

TUFTED PANSIES OR VIOLAS.

MR. RICHARD DEAN is on the war-path against the poor little Viola Society, and, considering his distinction as a "Society man," beginning with the splendid Chrysanthemums, we are surprised that it is worth his while to dance a war dance over so small a thing. But when we come to his reasons they are poor indeed. He says that

"In order to show how inapplicable is the term 'Tufted Pansy' to many of the Violas, an inspection should be made of the extensive trial of a considerable number of the leading varieties now being carried out by the Viola conference in the gardens of the Royal Botanic Society in the Regent's Park. It will be perceived that a large majority of the varieties, instead of having a tufted habit, i.e., close, dwarf, and compact, have an erect, tall, spare habit, and almost need the support of stakes to keep them in an upright position."

The importance he attaches to this very poor trial shows what a blind guide he is in this matter. These Pansies, which are never well grown unless planted in autumn, were set out in the Regent's Park in the late spring of this very hot year, so that they have not the smallest claim to be examples of what the Tufted Pansy does when rightly grown. The experience of such of us who have grown thousands of them for years is to set aside by Mr. R. Dean for this. It will be perceived that he also wrongly supposes that the term "tufted" is given for "dwarfiness;" whereas such is not necessarily the case. It means "spreading" at the root.

He is also mistaken in supposing the old name "never led to any confusion," because it is a common thing in gardens to find ladies asking the gardener to explain to them the difference between a Viola and a Pansy, about as easy a thing to do as to distinguish a Russian from a man.

All the garden forms of Pansy are absolutely entitled to the term Viola, all the Tufted Pansies (or so called Violas) being garden hybrids between certain wild species of Viola (*V. cornuta*, *calcarata*, *tacea*, *stricta*, and probably others), and the older, more short-lived garden Pansies (*V. tricolor* and *V. attica*). A Viola is not distinct from a Pansy, as Pansies come to us from species of Viola. All Pansies belong to Viola, as all Roses to Rosa. As to the meaning of the term "tufted" among the plants to which botanists have applied the term, the most familiar and one of the prettiest is the dainty little *Campanula cespitosa*, often used as an edging, and of which there is a good white as well as the ordinary bluish form. Now, the close or tufted habit is well shown in this plant, with its dense habit so very different to many plants of the same genus, some of them even reaching 6 feet in height and showing every degree of vigour and looseness of habit. Well, if this plant possessed a dozen lives, it could not increase more vigorously at the root and spread than it does without losing its tufted habit, so that if one plants it as an edging in narrow walks it will often meet in the middle and leave no room for the feet between; while, if we take it up,

a thousand plants may be made from one, owing to its spreading habit.

Take, again, a native plant less known in gardens, but not uncommon, the Tufted Rockfoil (*Saxifraga cespitosa*), which represents in the same way as the little Harebell did among its kind the tufted habit of its great alpine family. Now, while always preserving their close tufted habit, these plants spread over the earth like magic. If we take up a plant, we find innumerable rootlets already at work in the moist, slow turf, always pushing its gentle, but not slow, way over the ground.

Just in the same way as these two types of well-known plants show the tufted and spreading habit, so do the mountain Violets, *V. calcarata*, *V. cornuta*, and others, which, while tufted in habit, spread at the same time at the root; this excellent character they have given to their garden progeny, crossed between the alpine Violets and the newer garden forms of *V. tricolor*, or whatever the garden Pansies may have come from, a point on which good botanists are not agreed. What is beyond dispute is, that these plants are all equally hybrids, and therefore, by the agreed rule, allowed only to possess an English name, when there is a good English name, as in this case. The term "tufted" is a true and good name in every way from a botanist's or gardening point of view, and gets rid of the never-ending confusion among gardeners in attempting to draw a distinction between Viola and Pansy, which is impossible and ridiculous.

The Latin term for "tufted" (*cespitosus*) is frequently applied to alpine and rock plants (as in the above cases), and the term suggested the name tufted as fitted for the kinds with some of the spreading habit of *V. cornuta* and *V. calcarata*, as helping to distinguish these from the older Pansy (varieties of *Viola tricolor* and *attica*), which are more biennial in duration. Though they are increased from cuttings, it is by no means so easy as in the case of the tufted forms.

The fact that some of the larger garden varieties of Tufted Pansies like Abercorn Gem in size and form of the flowers resemble the common Pansies somewhat makes it all the more needless to separate them by the use of the Latin term. They were often called bedding Pansies in past years, as gardeners saw they were Pansies with a difference, which enabled them to be propagated easily in the open air and gave them more distinct and lasting effects than the ordinary Pansy, whether raised from cuttings or seed. W. R.

Pansies in the south of England.—It is pleasing to know that after so many years of failure, attempts are again being made to cultivate these in the south of England. Although the present season has been so against the growth of these desirable garden plants, a collection of about forty-five varieties was exhibited at Southsea on June 20 from the Brockhampton Nurseries, and all of them were as fresh and well coloured as any I have seen in the midlands and north of England, and under better conditions. Instead of being exhibited in the formal spray fashion, the whole of them were in pots and made a charming display.—F. N., Warwickshire.

Belladonna Lilies.—According to the space occupied, I am looking forward to having a fine display of this grand Lily a little later on. I base my calculations on the fact that in previous years I have found that the less the foliage was injured by the severity of the winter, the larger the number of flower-spikes the bulbs produce. Last winter was so mild here in Somerset that the leaves did not get damaged in any way, and they have developed to such a length and breadth, that I have not had them so robust during the thirty

years in which I have grown them. They are now (at the beginning of July) fast dying away. In about another six weeks I shall be looking for the flowers. I find that it is of little use to plant these Lilies in any other position than close to a south wall, and if the wall is connected with a stove or forcing house, the better they will thrive. The bulbs being large, they quickly get crowded if planted thickly. They should be planted 1 foot apart and not more than 6 inches from the wall. The further one gets westward, the better the Belladonna Lilies. At Binton, in Devonshire, they do grandly without any shelter. In my case I find it always pays to protect the leaves from injury by frost. An old mat or long litter will afford all the shelter they want if they are planted in the position I have indicated.—J. C. CLARKE.

Poppies Anemones.—How is it that, whether from seed or from dry tubers, we so rarely see these Anemones in gardens? Is it the case that because seedling raising necessitates some trouble, the small effort needed is too much to encounter, or is it that the tubers are costly? It is true that in situations where fog or a damp atmosphere prevail, Anemone foliage formed in the late autumn suffers materially, but ordinarily it suffers no more than does other hardy foliage such as that of Pansies, Daisies, Pinks, &c. It is not creditable to our hardy flower gardening that these lovely flowers should be so much ignored. If we had devoted one half the enthusiasm lavished upon Daffodils and Tulips to the cultivation of Anemones, our gardens might have been all the more beautiful in consequence. Some years since I grew the Poppy forms at Bedfont from seed, and they were beautiful beyond description, yet I had there a cold, stiff clay that was as unfit for the purpose as well could be. I raised my own seed, marking always not only the finest and richest coloured, but also any that exhibited a tendency to doubling. By so doing, some good doubles were always found in a batch of seedlings. It was not needful to sow seed largely, a dozen of the best blooms furnishing all that was needful to raise hundreds of plants. My rule was to sow seed in shallow boxes early in the spring under glass evenly and thinly; in that way strong ones, large enough to dibble out into the open ground in June, were always obtained. They made growth enough to become established, then died down for a few weeks, and in the autumn sent up new leafage, which would under ordinary conditions stand well, and very fine blooms resulted in the following spring. After flowering once more the beds were destroyed.—A. D.

THE MARIPOSA LILIES.

(CALOCHORTUS.)

It would be difficult to name a more interesting and beautiful group of summer-flowering bulbous plants. Quaint and picturesque in some instances and indescribably beautiful in others, it is no small wonder that the flowers should attract attention. During the past few weeks there have been given ample opportunities of seeing and admiring these flowers to the full by reason of the truly remarkable series that have been staged by the Messrs. Wallace, of Colchester, at the fortnightly meetings of the R.H.S. At the meeting on the 23rd ult., however, the Messrs. Wallace appear to have eclipsed all their previous efforts in exhibiting these Calochortus by the very extensive and varied assortment they staged; indeed, as an exhibit mainly comprised of these flowers, it may be regarded as unique, and deservedly so, for the many charming things that may have been selected in the group. Apart, also, from the exhibit as a whole, one item of especial interest could not be passed unnoticed, those having a fondness for hardy plants, and this was the remarkable variety to be found in what is now recognised as the Eldorado strain of these flowers. The infinite variety to be found in this group is the surest evidence of their free seedling properties, an item of considerable interest to all lovers of

hardy flowers, particularly to such as dwell in favoured localities and where seedlings may be grown with the greatest ease. To give a long list of names to these beautiful flowers would, I think, be useless, as they are so varied and numerous, and may be regarded as the best is open to doubt, because the best of to-day may be inferior tomorrow by the things to come; and if we as we may judge by the group at the Drill Hall last week—scarcely any two flowers are exactly alike, the naming would be an endless task. Even at the present time we have many beautiful and rare combinations in the colours of this section, that include purple of a rich velvet-like lustre, others with reddish purple flowers, gold-blotted flowers, and, again, gold blots on white and deep purple grounds. Regarded as a whole, this is a wonderful strain, unique in the large size of the flowers as well as the peculiar blendings of colour noticeable in so many varieties, though perhaps more so in the red-pink shades, and also those of salmony hue. Equally valuable, though not quite so remarkable for the infinite variety, are the varieties included in the *venustus* group, while as cut flowers they are among the most charming things that could possibly be grown. Conspicuous among these is *citrinus*, a handsome flower of a clear and rather deep canary-yellow, and blotched and pencilled of brown on the petals. In a cut state this is a most striking, and particularly so for large vases, where the thin, wavy stems are especially useful and give ample support to the most elegant of beautiful flowers. *Roseus* is another charming flower with partially descriptive name. It is one of the earliest of the varieties of *venustus*, and therefore valuable on that score alone. *Vesta* is another chaste flower and of the largest size; indeed, the vigour of this kind is quite remarkable. The petals of this vary from cream-white to rose-white, while the base is marked in the most fantastic way with yellow and mahogany-brown. *Vesta album* a lovely white flower, slightly stained at the base. *Venustus oculatus* is a remarkable flower, conspicuous by the dark blotch, which is inserted, so to speak, on the white petals, the blotch being again margined irregularly with yellow, and the base tinted or stained in a way defying description. This variety is very large and one of the most freely flowered, while other noteworthy kinds are *sanguineus* and *purpureus*, the latter very late in flowering.

Gunisoni, a fine species from Colorado, is very distinct in its petals of pure white, with green base, the beard being studded with gold, giving it a handsome appearance internally. Of rather novel shape, though, perhaps, less desirable, is *spendens*, a true carnation in which the mauve-violet blossoms appear very distinct among the other members of this lovely race, and the same may be said of *C. nitidissima*, a mauve, white shaded flower and a huge indigo-blue blotch on each petal. Internally this is rendered distinct from all by the hairy appendages of long web-like filaments seen on the petals, and, again, this is very distinct from the rest by the flowers being supported in a distinct umbel, often six to a dozen blooms in each. These are, of course, but a unit of the many fine things to be found among these plants.

CULTIVATION.

The primary points necessary to ensure success are a position which is sunny, well drained, and warm, and if heavy soil exist this must be lightened by the addition of leaf-soil, sharp sand, coir, cotton-fibre, and even peat, the aim being, so far as soil is concerned, to secure one light and warm, and above all having perfect drainage. This latter, perhaps, is the most absolutely essential condition to growing these delightful flowers with perfect and complete success, and after flowering to give a season of complete rest. One of the most fatal enemies is being water-logged in winter-time, but for this there is a simple remedy at the disposal of all. Those who have sandy borders or sloping banks on sandy or gravelly soils will have but little to fear in the matter of excessive wet, but those on heavy, retentive soils must of necessity employ different methods. In the matter of planting, the

Messrs. Wallace, who grow these things so well, restrict the season of planting from September to November, not later, but many amateurs will be glad to know that by keeping the bulbs in dry soil and sand I have planted as late as the middle of February with perfect success. The soil I had to offer was an exceedingly light and porous nature, and having previously lost rather heavily by autumn planting in coarse soil, I determined risking the bulbs out of ground till the worst weather had gone. This experiment was a most useful and valuable lesson, since which I have always treated them in this way. And when it is considered that these things do not bloom till midsummer, it will at a glance be seen that by February planting there is still a fair season for growth prior to flowering time. The chief difference between autumn planting and that just named is that a slightly earlier flowering is obtained from autumn planting, but this in many localities and a wet winter would be followed by many losses that may be avoided by planting in February. During the winter, however, the bulbs must be kept on a dry shelf secure from frost in sand and soil. In this way the bulbs will remain quite fresh and plump, and give but little anxiety to the cultivator.

E. JENKINS.

Hampton Hill.

CARNATIONS AND PINKS AT WORTON HALL, ISLEWORTH.

The system of potting up some of the best self-coloured border Carnations in the autumn, as adopted by Mr. Pentney, the gardener here, is worth recommending, as by this simple means anyone with a very limited amount of glass may enjoy the beauty and perfume of these favourite plants for at least two months before they come into bloom outdoors. In the gardens at this place a large house is devoted to Carnations, and a succession of bloom is maintained the whole year through. Three varieties of *Malmaison* are grown, and are seen in quantity in dwarf stony plants in the best of health. These are soon getting over, and will soon be layered for next year's supply of young flowering plants. Among the newer varieties in the Perennial section, Mary Godfrey and Reginald Godfrey are great favourites. Both are splendid growers, with a robust branching habit, and are carrying marvellous heads of bloom. The former is a large, full, well-formed flower, pure white in colour; and the latter is equally large in size of bloom, and pink in colour. These two are invaluable to all who have to supply cut Carnations, as they are remarkably free blooming at all seasons of the year. At the present time the principal display of bloom is from the best border kinds. Rose Celestial, Kettone Rose, Mary Morris and Rose of Rutland are among the best of the pink kinds. Mrs. Muir, Ivor, Mrs. F. Watts and Waterwitch are all good white kinds, full and of good form. The last named is a very large flower, blush-white, and the plant is a good grower. The best scarlets are King of Scarcott and Mrs. Aspley Smith, both first-rate, the former throwing a fine head of bloom. The darkest forms are represented by Rose Wynne, Uriah Pike, Duke of York, and Mephisto, the last named with very perfect blooms; Germania, Leander, and Yellow Queen are the best yellows, and all are carrying good crops of fine flowers. All the above are also grown in quantity outdoors and are developing an abundant bloom, which will form a succession to the indoor flowers. Uriah Pike and Germania have both stood the winter well outside, and are showing blooming freely.

Pinks are growing quantities, and three kinds are special favourites here. Her Majesty is unsurpassed as a fine white kind, producing heads of bloom a foot in diameter from one-year-old plants. Charles Ladhams is a fine green grower, and throws up immense heads of bloom. The individual flowers are also of extra fine size, very full in the centre, reminding one of a good double Zinnia. The colour of the outer petals is rose white, and the centre petals are marked with a

circular band of lilac. Ernest Ladham is dwarf, and not quite so robust in growth as the preceding, but equally free in producing a fine head of bloom. The colour is clearer and more refined, the outer petals are a delicate bluish-white, and the centre petals are marked with deep maroon. All these Pinks root freely from pipings taken off after the plants have flowered, and inserted in very sandy soil in a frame or under a hand-light, and kept shaded until rooted.

J. R. T.

Clothing a wall.—*Desfontainesia spinosa* is flowering freely against a south wall here, its scarlet, gold-tipped blossoms very conspicuous on the dark green leaves. Close to it some weeks ago *Fabiana imbricata* was a mass of bloom. Along the same wall a good sized plant of *Indigofera Gerardiana* is almost covered in pink array, and *Ceanothus Gloria de Versailles* gives a good contrast in feathered bunches of grey blue. The brilliant red tassels of *Berberidopsis cornifolia* will soon be out, and the odd-shaped flowers—so full of character and beauty—of *Clematis occidentalis* are just commencing to show their bits of colour. The terrible "trip" of the east is, February, 1895, withered my large plant of *Passiflora Constantia Elliott* to the ground, but late that afternoon it very cheerfully sent up some shoots to let me know it meant to come back. Some of these will, I hope, again wreath the wall with star-like blooms. *Grevillea sulphurea* grows space and has plenty of blossom, quaint enough, but not very showy; it never minded the thermometer at zero last year. *Trixiea Escallonia* are still very bright, but *Olearia Gunniania* is quite over, and its dusky green leaves had hidden among downy seed tufts.—W. D. R. D., *Castle Douglas*, N. B.

Gaillardias.—At the recent Richmond flower show a certificate of merit was given for a new form named *Mrs. Sage*. Possibly certificates given under these conditions are of no great value, but the flowers of this variety have two distinct merits. One is that the flowers are more roundly rounded in form than is ordinarily found, and they are not large. Too commonly these Gaillardia blooms are regarded as meritorious the larger they are and the more the edges of the petals show divided segments. Probably no flower will ever be without that character, and no one, it is hoped, will desire it. The variety named has the customary deep red centre with clear yellow margin. Gaillardias were long grown in gardens as summer annuals, their perennial nature not having been understood or utilised. They no doubt give very fine blooms when grown the second or third year, but because sowing so freely and so easily raised, the plants are very commonly treated as annuals, and so used prove to be very decorative. Mixed with other plants they look well, whilst they furnish flowers for cutting that are highly appreciated. If cut fresh in the morning they last for some time.—A. D.

Canterbury Bells.—These hardy biennials have been blooming profusely this summer, due largely, no doubt, to the absence of snow and very heavy rains during the winter, visitations that are generally more harmful to these plants than sharp dry frosts. We have in these plants a remarkable improvement over what was usually seen twenty years ago, and yet it is seldom we see good strains in gardens, gardeners generally either ignoring them altogether or else being content to grow the old forms that are relatively so inferior. Seeds of all good biennials should be sown every year, but at various times. Thus, Canterbury Bells, if from late sowings, will grow but a small head of bloom before they may miss blooming altogether. If sown too early the plants may be unduly large, and not withstand the winter so well. I always prefer to sow in May, whether in the open ground or in boxes, but the seeds are very small and hard shelled and germination is uncertain outdoors if the weather be dry and watering is not regular. However, once good growth is obtained, then plenty of plants may be had to dibble out where to flower

in July, taking advantage of a showery time, or else occasionally watering until the plants are established. From plants so raised and planted I have had the following year huge clusters of flowers fully 3 feet through and as high, really wonderful clumps of very large blooms in numerous colours, also single and more or less double. Seed should yearly be saved from a few of the finest, especially from the semi-doubles, as they always reproduce singles and doubles. The forms of calycanthemus having changed their green calyx into a floral petal, have when seed is ripe bald pods, and thus are easily distinguished from the others.—A. D.

Carnations.—The variety inquired about by Mr. Burrell in your issue of July 11 as an improvement on Mrs. Reynolds-Hole is Carolus Duran. It is a strong grower, slightly lighter in colour than Mrs. Reynolds-Hole, but it rarely ever splits the calyx (which the former plant nearly always does; at any rate, all the primary flowers do), and as hardy as can be desired. The Hunter (Douglas) is an excellent Carnation in this colour, the blooms are not quite so large, but they are very bright and do not split. Sigurd is a new orange of Mr. Martin Smith's, but this being its first year of flowering with me, I cannot speak from experience of it as a border variety. Carolus Duran I know well, having had it in my collection of showy border varieties for out-of-door culture for half a dozen years, and I can heartily recommend it. All the following carnations were planted out in quantity at the latter end of last September, have stood through the winter without the loss of a plant, and are now in full bloom, a dazzling display of colour, viz., Hayes' Scarlet (Smith); Hunter's Scarlet; Mithridates, a splendid showy border variety; Shaldon Scarlet, very bright; Czarina, a strong, upright grower; and General Boulanger. The last three are of my own raising. There are many others, but the above six are first rate and can be expected to withstand any winter we have in the British Isles. Kettton Rose has been very fine here this year, but the blossoms are now past their prime.—H. W. WEGEULIN, Shaldon, Teignmouth.

FLOWER GARDEN NOTES.

BEGONIAS.—Why is it that the pink shades in tuberous Begonias are as a rule by far the strongest growers? A vigorous constitution and an upright habit are essential features in all tuberous Begonias that are grown specially for outdoor work, ranking before any special features in the flower itself; for varieties that grow kindly and well will hold the flowers well up, even though the flowers may be small, much more acceptable than those with larger blooms of drooping habit and with perhaps a somewhat inferior constitution. Given a thoroughly good strain, sound judgment must be displayed in the planting arrangements to allow, on the one hand, for the perfect development of individual plants, and at the same time, if they are thinly set, to provide a good carpet, as a large amount of bare soil all through the season is not in accordance with good flower gardening.

PENTSTOMES.—No one who has seen and admired the exceptionally lovely flowers to be found among the newer varieties of Pentstomes can fail to be well pleased at the prominent position they are taking in the summer flower garden. Whether grouped together in a large bed or in bold clumps on a dwarf carpet, they are equally fine, and a prompt removal of the centre spike as soon as the flowers are inclined to drop leads to the quick development of the many side spikes which, although not individually so fine, give as a whole a splendid display. Occasional beds, either on turf or in a strictly formal garden, will be very acceptable, and in the latter case will break up the flat surface that often prevails. A suggestion in connection with their culture that may be worth consideration is that when used alone the various shades can be mixed together, but when planted in groups on the dwarf carpet decided colours should be employed in white, crimson, purple or

scarlet as circumstances may require. I know of no better carpet plants for them than the dwarfest of the Tufted Fuchsies. Let me recommend, for instance, Newberry Gem, or the newer varieties Lord Mayor or President Carnot, on an under-growth of Violets Pansy.

PETUNIAS.—It is rather a pity that Petunias are not more frequently seen in the flower garden. There was a very fine purple of splendid habit that was grown some years ago that made an exceptionally fine display for large beds, relieved by occasional dot plants of the white-flowered Marguerite or some well-grown Eucalyptus globulus. The newer strains are certainly very fine in the individual flowers, but the majority are shot blooms, and where a glowing mass of colour is required, are not to be compared to a thoroughly good self. For large outlying beds batches of seedlings of a strong growing strain can be used, and Petunias possess the merit of being among the most enduring of annuals. For vases or window boxes they are also exceptionally good, and if it is determined to use them alone without the aid of other plants, the centres and backs can be raised to the necessary height by the insertion of sundry twiggy boughs on which the plants will run. If seedlings are required, it is advisable to sow fairly early, not later than say the middle of March, and the seedlings should be pricked off into frames or boxes as soon as they can be handled to ensure good plants.

UNCOMMON BEDDING PLANTS—CYTAEAEAS.—Until flower gardeners realised the truth of the advice that the desired end might be obtained by sowing the white Centaureas early and growing them on in this way, the acquisition of a big stock was not an easy matter. The best results from cuttings are obtained if they are inserted singly in 2½-inch pots in a compost of one half leaf soil and one half ordinary road sand. They do best on a dry shelf in a cool house, and all through the winter only just enough water should be given to prevent shrivelling. For several years now the cutting system has been abandoned and I sow about the last week in January, growing on quickly and shifting as advised for Petunias as early as possible. It may not be generally known that Centaurea ragusina is very nearly hardy. Most of the plants came safely through the winter of 1895-96, and where the beds wholly or partially filled with it are not required for other things, an effort may be made to save it. Give a good thick mulch of half rotten leaves before the approach of severe frost.

CUPHEA PLATCENTRA.—This is a very pretty thing, and, flowering as it does freely and continuously, it is a beauty not often seen in the flower garden. I remember many years ago a mixture of this and Heliotropium which had a very pretty effect, and it makes a capital carpet for such strong growing Fuchsias and Begonias in colour that will contrast nicely with it. It strikes readily from cuttings and will keep well through the winter.

GAZANIA SPLENDENS.—A capital dry weather and dry border plant that will grow and flower well under adverse conditions, although I am inclined to think it's day in the flower garden is nearly over, for the reason that the predominating shade (yellow) to be found in its flowers is also to the fore in some of the newer Tropaeolums, and that the latter are equally good dry weather plants. The Tropaeolum flowers are always expanded (the absence of this characteristic is a drawback to the Gazania) and the Tropaeolums are more easily grown.

MARUNDYA BARCLAYANA possesses a shade to be found in hardly any other outdoor flowers and is valuable on that account. I remember in the old days of pile beds it used to be great favourite for the outer row to hang down over the piles either used alone or with alternate plants of the white trailing Campanula. Like all plants of this character that are treated as annuals and obtained from seed, it should have a sufficiently long growing season to secure good plants. Writing of Marundya and its value for the purpose above named reminds me to note that the question

is often asked, what is the quickest summer climber or trailer? There cannot be much doubt that the answer should be Cobaea scandens. I used to sow this in the end of January, but a month later is plenty soon enough, or the plants get almost beyond control before they can be put out, and it is not advisable to consign them to outdoor quarters before the end of May. Although things are not suffering to the same extent as they were in 1893, the present season recalls that exceptionally trying time. In the basket of all plants in pots, window boxes, &c., that are exposed to the sun and the drying winds close and constant attention has been essential to keep them in good health. Sweet Peas in pans and boxes, despite all one can do, will be short-lived, and all pots that are full of roots want water twice a day and liberal feeding to keep the foliage healthy. In all gardens where the soil is on the light side with a porous subsoil, the advantage of a sowing of the best annuals on a shady border is very apparent. They are nearly dried up in all positions where they get the sun all day if nothing can be done for them in the matter of water, but on a north-west border Mignonette, Gypsophila, Cornflowers, and the new annual Wallflower are at their best, growing strongly and furnishing a capital supply of cut flowers. In their particular shades the varieties of Coreopsis and Gaillardia are coming out fast, and, relieved from the powerful rays of the sun where the plants can make good growth, the flowers are considerably larger and the colours thoroughly well preserved. In this question of cut flowers Carnations are so much in request that I am inclined to try a few another year on a north-west border, and if all goes well, the season would be considerably prolonged. Of course, when Carnations as a whole are included, the desired end may be obtained by spring sowings of the Margarita type, but the latter, useful as they are, are hardly up to the form of good named border varieties. For this north aspect work I shall try Urias Pike, Murillo, Countess of Paris, a couple of very hardy seedlings, Sir Beauchamp Seymour, and probably Mrs. Reynolds Hole, with Kirby as still a later sort. I have never had Mrs. Hole so free from the calyx bursting.

Claremont.

E. BURRELL.

ORCHARD AND FRUIT GARDEN.

OPEN AIR PEACHES AND NECTARINES.

THESE promise grandly this season, and fruit growers who have a light gravelly soil will now need to be on the alert and check red spider at the start. Few of the earliest trees will escape it as surely as the stoning is finished if the heat and drought continue. It is strange that very often as soon as the lateral growths are tacked in spider appears. I am never in too great a hurry with young trees on account of this as the wood is so much exposed to the hot, glaring sun, that a little extra growth prevents the pest by giving a slight shade. Of course this free growth does not add to appearance, and in due time the growths must be regulated. I am an advocate for extension and do not pinch so freely as many would advise. I admit I may be wrong, but I find I can secure fruiting trees from maidens in a short time, and the Peach given liberal treatment makes so free a growth that I see no good in cutting hard back and wasting two or more years in what may be secured in one, therefore train in freely the breaks from the strong leaders, or what should be termed second growths. These, if well ripened, will fruit the following season. This year, owing doubtless to liberal mulching and moisture my trees are very luxuriant, and it is well to maintain a healthy growth to secure fine fruit,

The autumn of 1895 having been remarkable for its fine warm, bright days, which ripened the wood well, we are this season reaping the benefit, as I never saw trees more vigorous and healthy, and with free growth one need not fear canker and gumming. The cultivator, with moisture required in all directions for varied fruits and vegetables, would do well to damp wall trees overhead in the evening. I find this a great saving of labour. I mulch early and cover a good width from the wall—quite a yard. With a good mulch, moisture is better retained, as if only watered at the roots once a week, the trees are kept going, and red spider cannot exist when the trees are damped over as soon as the sun declines. I have Amsden June now quite soft on the sunny side of the fruit, and doubtless the fruits will be quite ripe on a west wall at the middle of July. Now is a critical stage, as if the trees suffer from want of moisture, the fruits will not be able to swell freely. Many of the trees are bearing very heavy crops and will require food in a liquid state. Last week, with a drop in the temperature, mildew soon put in an appearance, and I have for years intended to omit Royal George from my list; when getting young trees, but by some means it gets a place, as if growers of stock trees are short of any kind it is the usual remark, "replace with the old favourite, which is difficult to beat as regards flavour and is a hardy variety." A favourite Peach with me, owing to its good quality, is Early Alfred, a delicious variety. Hale's Early comes in at the same time, but by growing one on a west aspect, the other on a south one gets a succession. Dymond is a later variety, but of great merit. It never fails here, and the fruits are of grand colour, with size also. Bellegarde is one of my favourite late Peaches, and very fine this season both indoors and on walls. We have an excellent early Peach in Early Canada, somewhat like Amsden June, but later. This variety does not appear to be largely grown in this district. As it never fails, I think well of it. I could greatly extend my note as regards the Peaches. I have named those which are most trustworthy, but really, several more could be added to the list. I am not at all conservative in the management of these trees, as when one can grow young healthy trees in so short a time, I see no gain in leaving old cankered, unsightly trees which do not add to the appearance of a well-kept garden. To replace these, I usually get a few maidens yearly.

This year will certainly be one of the best for Nectarines if a favourable ripening season follows. The new Rivers promises to eclipse my old favourite Lord Napier. I have both varieties side by side, and the new one is in advance of the older, though cropping very heavily. Such varieties as Advance, which I do not place in the front rank for its cropping qualities, is also good. Pine-apple will give a grand crop, also Dryden, Humboldt and Spenser. Of older kinds, such as Pitmaston and Elrige are good. These with me in cold wet seasons do not finish well, as they crack badly.

G. WYTHES.

A good late Cherry.—For late dessert few varieties equal St. Margaret, or, as it is more commonly called, Tradescant's Black Heart, a remarkably fine Cherry, very large, dark purple, and with sweet rich flavour. It does not lose its freshness by hanging like many of the sweet Cherries. Anyone who desires late Cherries will find the above the best of the black section. I have kept it good on the tree till the end of August, and on an east wall later still. No matter how wet the season, it is one of the best as regards cracking. It possesses a tough skin, which pre-

vents it shrivelling, and it does not split readily. As regards indoor culture for late supplies I consider it the best variety grown. It is not good as bush or standard. I find it valuable for late dishes, and being so fine a fruit it is greatly admired for dessert.—S. H.

Cherries and drought.—The great heat combined with the drought has not favoured Cherries, as it will have shortened the season. Those who have their trees on an east aspect in such seasons as this have less trouble with their trees. I have always, in what may be termed favourable localities, advised growing a few dessert kinds on a north aspect, and in less favourable ones on an east, in this way securing a succession of fruits. Few trees suffer sooner from heat and drought than dessert Cherries, and though Cherries are equally bad if overwatered, as the fruits crack, the trees will suffer next year if the buds are not kept plump till the leaves turn colour. Many of the Duke section do well on the aspect named, and in northern localities such kinds as Tartarian, Governor Wood, Frogmore, Bigarreau Imperator, Francis, Bigarreau Napoleon, and St. Margaret do well on a S.E. aspect, and grown thus, are less subject to insect pests and suffer less from drought. White Cherries keep longest, but are more prone to crack, so that the trees should not be crowded. I also notice dessert kinds worked on certain stocks suffer much more in dry seasons than those trees with their branches springing from the soil. In poor soils and on a gravel bottom I advise trained trees in preference to what are termed riders, fan-trained for high walls, not only on account of their suffering more from drought, but when laden with fruit they collapse at the point where budded or grafted, and this, after several years' culture, is annoying. It may be asked why standards succeed in the open. Doubtless the reason is that they are allowed more freedom, the hard cutting and training many of our fruits get are not conducive to long lives.—G. W.

AUTUMN STRAWBERRIES.

In not a few large establishments where an annual supply of fruit is required, the culture of late Strawberries is a special feature, and by a variety of means nice fruit are obtained not only during August, but September also. Old gardeners, however, have chosen for as late sorts as concerned, the only two true reliable varieties then available for autumn fruiting being the Elton Pine and Frogmore Late Pine. Now, however, their name is legion, although I very much question if the two above named sorts have yet been surpassed, all points considered. Frogmore Pine, an excellent flavoured Strawberry, and a connoisseur's fruit in fact, requires good cultivation, but this it well repays, as the runners, although sometimes produced too late to make large plants the first season after planting, yield excellent crops the second year, and on extra rich well prepared ground sometimes the third. The same may be said of Elton Pine, as the north border on which these late Strawberries are always grown retain moisture much better than ordinary exposed plots. In order to secure good autumn crops a row of stock plants is necessary, from which all bloom trusses are removed as soon as they appear, as the late date at which these sort fruit, together with the necessity for netting the beds over to protect from birds, renders it difficult to obtain runners from bearing beds capable of making much headway before winter sets in. The most successful grower of late Strawberries I ever knew, used to peg the runners from his rows of stock plants which grew on espalier borders into the ground, his contention being that root dryness was not to be feared as when pots were used, and that the plants did not suffer from a little delay in planting as rooting could still go on un molested, and with careful lifting with a trowel, no material check was given. Deep trenching, except occasionally, and with a view to placing the semi-exhausted soil in the

bottom, is not necessary, nor indeed, good practice any more than it is with ordinary summer Strawberries, as, when the manure is buried so deeply, the roots do not reach it the first season, which is what is wanted, as mulching the surface with rich manure the second year will afford all needful nourishment, the Strawberry being, to a very great extent, a surface rooter. I choose a plot in pretty good heart, and dig one spit deep only, keeping a good trench and well treading in the same as the work proceeds. These late Strawberries are much improved both in size and quality if just at the colouring stage, and previous to putting on the nets, the runners are all removed. For a September crop, the soil must be hard to planting, a stout stock of early vegetation which have been forced and gradually hardened off in frames. This hardening off is very important, as plants that are turned out suddenly from a warm house into open yards and thereby severely checked, cannot be expected to do double duty the same season. A flat border is much better than a slanting one, retaining moisture better, and even then attention must be paid to artificial watering, mulching also being very important. The soil must be thoroughly well rammed round the balls, and a slight basin left for the reception of water, when, when the fruit is swelling, must be of a manorial character. A word in conclusion as to seed. Last year I saw a grand September crop of Vicomtesse on a sunny west border in a Norfolk garden, and I do not think there is any variety better for the purpose. Noble and Keens' Seedling would succeed well enough so far, but then being both soft-fleshed Strawberries, rot would set in in wet autumns. Probably Royal Sovereign would be excellent, having firmness as well as earliness in its favour. Mulching with clean litter and propping up the fruit to the sun are necessary.

J. CRAWFORD.

An Egyptian Mandarin Orange.—Replying to a request for some information as to a distinct and most delicious Orange we met with in Egypt, Admiral Blomfield writes from Alexandria, June 26: "The name in Egypt of the Mandarin Orange you speak of is 'Yusef Effendi' (*Anglice*, Mr. Joseph). Its history is that about sixty years ago, in the days of Mehemet Ali, one of the young Egyptians who in those days used to be sent to Europe to be trained in modern science, in order to propitiate the great Pasha, brought him a present from Malta of two Mandarin Orange plants, and the name of the youth was Yuseff, or Joseph. This was the first introduction of the Mandarin Orange into Egypt. Mehemet Ali was so pleased with them, that he ordered the cultivation of this kind of Orange, and the Egyptian variety is what you found so delicious. I quite agree with you as to the quality. I never tasted any with better flavour in China than those we get from the neighbourhood of Benha, in the delta, in December."

Mr. Draper, who is in charge of the Government gardens at The Barrage, Lower Egypt, has just sent me the following since I wrote you:—

Yuseff Effendi can be grown either from seed or by grafting; the latter is the quicker method. Seeds sown here in February last have come up very irregularly, the seedlings are now about an inch high with two leaves. Grafts made in the same month the Citron (*Citrus medica*) have already grown about 2 feet. Seedling fruit in bushes found on the island of Benha, and go on bearing for a greater number of years than grafted trees; the crop is said to be larger, the fruit being small, thin skinned, and firm (the best quality). Grafted trees give a crop in about half the time. The fruit is larger than that of seedling trees, and consequently sells better, but it is liable to become spongy and wanting in flavour, left long on the trees. As stocks the Benha orange (mainly Yuseff Effendi) are chiefly used. The former are grown from cuttings of the old fruit of which is very large, spongy, white, and tasteless. The latter stocks are grown from seed and have a more acid flavour. Seedlings in the open air in Egypt are shaded from April until September. Grafted and seedling trees of all the Citrus family may be purchased in January and February at many of the villages in the neighbourhood of Benha at 5d. to 7d. each.

AIR AND SHADE.

The glorious sun of heaven, giver of life and joy to the earth, gives, too, the green fountains of life we call trees to shade her, and this beautiful provision might often be borne in mind in thinking of our often hard and bare gardens! I say "air and shade," as we cannot near houses in hot weather enjoy the air without some shade, yet the shade may be often misused to cultivate mouldiness and keep the breeze away from a house, though it is very easy to control it that we may have air and shade in a healthy way. To overshade the house itself with trees is always a mistake, and sometimes a danger, but even right against a house, by the use of climbers, like Vines, pretty creeper-clad pergolas, and by the wise use of rooms open to the air, creeper-shaded, level spaces on roofs, as one sees so often in Italy and France, it is easy to have welcome shade even forming part, as it were, of the house itself. We have the gain, too, of the grace and bloom of the climbers, from climbing Tea Roses to Wistaria, and we get rid of the horrible baldness of such houses as Syon and some of the

frankly accept as they are and gravel the spaces beneath them for use as playground seats. In dealing with such trees we must be unsparing in cutting off the lower boughs, which are rarely of much use to the tree and often impede the air and movement underneath; they should be cut carefully up to a good breezy, but not hard or level line.

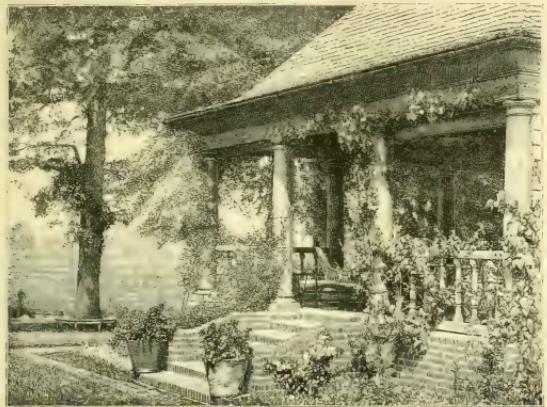
As regards the place for shade in gardens, where the flower garden is small we may rightly object to much shade in it, and must get as much as we can outside it. In many cases in open lawn gardens, where one passes easily from the flower beds into level, open ground near, one can have delightful groups of shade trees not far from the flowers, and this sort of garden, of which there are so many in the level country, is that which is perhaps the most easy of all to keep cool, airy and sunny too. But in large open flower gardens, which are often bare and hard, it is better to have some shade. Great areas of gravel and flat beds everywhere are most tiresome to the eye, and in many large gardens, which we need not mention, it would be an improvement

get shade from climbers and often great beauty of flower from the climbers that give the shade. It is curious how little use is made of the Vine, with its beauty of leaf and form, for covered ways, loggias, and garden houses, not only in the country, but in town also. It is one of the best plants for covering the fronts of houses, and good Vines spring out of London areas far below the level of the street. It would be difficult to imagine worse conditions for the aeration of the soil or its fertility. These remarks apply not only to the common Vine, valuable though it is with all its innumerable varieties, but to the wild Vines of America and Japan, some of which are very beautiful in foliage and colour. The last few years we have seen so many hot seasons that one turns to the Continental idea of shade in the garden with much more interest; and why should we not have a sort of outdoor loggia and Vine-covered garden rooms? This year, in the courtyard of an inn in Normandy, I saw a roomy open-air dining saloon, the roof covered with Vines—an excellent place for entertaining in hot weather—and our wants for several recent hot years have been as pressing as those of the French for shade. We have many plants that would serve the purpose, but certainly none so free or so handsome taken altogether as the different kinds of Vines.

We do not only neglect the outdoor shaded structures, but the even more essential loggia forming part of the house. A garden room entered from the house and part of it is a great comfort and may be made in a variety of pretty ways, though never without provision for a few light graceful climbers. A fine kind of shade is that given by a group of Yews on a lawn near the house on a hot day—a lovely tent without its cost and decay, and this is almost true of any noble tree, from the Beech to the Oak, this often in great spreading trees giving noble shade, as in the case of a wide-spreading Oak tree in the pleasure ground at Shrubland. The Tulip tree, where it has room to spread, gives cool and pleasant shade, as in the case of the fine old tree at Esher Place, and there are many noble Horse Chestnuts which give great shade, and the Plane tree in Southern England give noble shade.

Trees with light shade might be welcome in certain districts, and often groups of them planted with this view. Among the likely trees might be mentioned the various Acacias, of which the common old American is very good, while several beautiful varieties have been raised in France and are light, elegant trees, especially the Mimosa-leaved one. In warm soils this would grow well and give very light and elegant shade. There are so many rapid-growing trees that in places devoid of shade trees it would not be difficult to establish some soon. The Weeping Willows afford a very welcome shade, and so do many weeping trees. The White Willow and any of its forms give a very pleasant light shade, and the Ash casts a partial shade. It would be possible to use trees to get all gradations from light to dark.

After all is said about shade, the most essential thing in British gardens generally is not to have too much of it. Most of us plant too thickly to begin with; the trees get too close and we neglect to thin them, the result being mouldy, close avenues, dripping, sunless groves, and dismal shrubberies, which are more depressing than usual in a wet season. It is only when we get the change from sun to shade and plenty of movement for air that we really enjoy the benefits of shade. We cannot feel the air move in an over-planted place, and there are in such no broad breadths of sunlight to



Air and shade: A garden room, by Harold Peto, Bridge House, Weybridge.
Engraved for THE GARDEN from a photograph by Harold Roller.

French châteaux, often on the warm side without gardens or shade of any kind, and often hard as a new bandbox on top of a hearse.

A little away from the house, shade of a bolder kind is always worth planning for. In planting for shade it is well to select with some care and avoid things that have a bad odour when in flower, like the Alliaceous and the Manna Ash and evil-smelling undergrowth like Privet. In many places there is opportunity for cutting, so to say, groups of pleasant shade trees out of the crammed shrubbery, neglected as that so often is, with close and dark barriers of Laurel, Privet, and Portugal Laurel everywhere. Nothing is easier than sweeping away and burning much of this ever-green rubbish, and getting instead shade over pleasant walks and seats, or over paths through hardy Ferns and Foxgloves; such things permit of light and shade and do not weaken the trees. Vain attempts are often made in our gardens, public and private, to get grass to grow under certain trees which it would be much better to

have covered ways of Rose and Jasmine or wreaths of Clematis and alleys of graceful trees such as the Mimosa-leaved Acacia, or other light and graceful trees. In that way we should get some of the light and shade which are so much wanted in these large chessboard gardens, and in getting them we might also get trees beautiful in themselves, or carrying wreaths of Wistaria or other climbers.

Among the most beautiful shade-giving trees are the weeping ones, which in our own day are easy to obtain and often beautiful, as the Weeping Beech, which gives such roomy shade at Knaphill, and so does the Weeping Mountain Elm, as we see it in the Botanic Gardens in Regent's Park. These give rather a heavy shade, but there are trees of a lighter character, such as the Weeping Ash, of which we see elegant trees even in the London squares, as at Kensington, and various Weeping Willows, which give a light and pleasant shade.

Those who have small gardens and cannot have them robed by the roots of trees may

give the airy look that is so welcome. Overplanting is the rule; the regular shrubbery is a mixture fatal to the play of light and shade and air. Not only is the sun shut out, but many beautiful views also, and often a good many in the same place.

Very harmful in its effect on the home landscape is the common objection to cutting down dying or ill-placed trees cumbering the ground, to the detriment of the landscape and often to the air and light about a house. The majority of the trees that are planted in the country are planted in ignorance of their mature effects, and of this we see instances every day, the landscape beauty of half the country seats in England being marred by unmeaning trees and trees out of place. I have known people who wanted to rebuild a solid Georgian house rather than take down a tree of moderate dimensions which made the house dark and mouldy and obscured the view of far finer trees beyond it. It is not long since a man wrote to the *Times* after a storm to say that one of his Elm trees had fallen through the dining-room ceiling when he was at luncheon, and that Elms were not good trees to put so near the house! Air, shade, and sun are a trinity essential about a country house, and we cannot enjoy any one of them unless some thought is given to all.

Without the limits of the garden where there are drives through old mixed or evergreen woods like the long cover at Shrubland, it is important not to let the undergrowth or trees grow close on each side, as they are very apt and prompt to do. It is difficult to give an idea of the difference in the effect of such a drive when "light and shade" are let into it, and when, as is commonly the case, the Yew Box, and other things are clipped back to hard walls, good views, handsome trees, and groups being all shut out by this. It is better never to clip in such cases, but always to work back to a good tree or group, cutting encroachers clean out of the way, and so getting room for the air to move, the shade of the trees above being exactly the same in each case. Of course, the pleasure of driving or walking is much greater when the air is moving, and when one can see here and there into the wood on each side, with perhaps groups of wild flowers and beautiful views into the country beyond.

W. R.

ORCHIDS.

NOTES ON ORCHIDS.

Now that midsummer has passed, cultivators will be on the look-out for finishing growths, and will be turning their attention to the proper maturation of the pseudo-bulbs. It seems early to be treating of this, but, like everything else connected with gardening, we have to anticipate the wants of our Orchids. Looking through the houses, I find that many of the evergreen Dendrobiums, and some of the deciduous ones, are rapidly swelling up, while some of the smaller-growing species in the former section have finished growing for the season. Amongst these are *D. Jenkinsii* and *D. aggregatum*, the little bulbs stout and apparently well ripened, each with its quota of little white roots clinging close to the blocks of the older pseudo-bulbs. Though these do not require the baking that some growers apparently think necessary, every endeavour should be made to ensure their keeping dormant, for though probably a new set of bulbs would have time enough to grow and mature in a warm

house, this double growth is neither advisable nor necessary, more flowers, and these of better quality, being produced by keeping them to their annual cycle of growth, rest, and flowering. Cool treatment, as is well known, diminishes the danger of insect attacks and also serves to keep the plants quiet, so if a nice airy position in a sunny frame, a greenhouse, or any similar structure can now be afforded these plants they will thereby be benefited, and there will not in such a plan be any need of overdriving the roots. The larger-growing, more vigorous evergreen kinds require more time, and though an extra early plant may be fit to leave the growing quarters, the majority are as yet better where they are. Nor can the deciduous kinds be treated collectively, *D. aureum*, for instance, having already made up its bulbs, *D. Wardianum* not being far behind it, while *D. Devonianum*, *D. Pierardii*, and many others need several more weeks of growth. There is hardly a plant in this set that is not all the better for a couple of weeks in the open air, provided the pseudo-bulbs are sufficiently advanced to allow of it before danger from frost is apprehended. No time must therefore be lost in pushing on the growth of these plants, and as the foliage is by this time getting harder, no more shading than is absolutely necessary for other plants grown with them must be allowed. In every case they must be brought as near to the light as possible, and if any old or spent stems seem to be crowding the new ones, cut them out without any further delay, no harm, but, on the contrary, a great deal of good accruing to the plants by their removal. The small pans that I have so often recommended for the growth of these Dendrobiums hold so little compost, that at this season they run dry very quickly, the abundance of roots now active imbibing also a large quantity of moisture. Look over these daily, and when approaching dryness, thoroughly saturate every portion of the compost in them. *D. Phalaenopsis*, as mentioned in my last notes, does not root so early as some other kinds, but even this has now made considerable headway, and must on no account be allowed to get very dry. It is not too late to make up pans of *D. nobilis* from young shoots obtained by laying old stems in spring, for these have yet a lot of growth in them and may be kept going, not much bloom being expected from such the first season. The vigour of these fresh little plants is really remarkable, and they may with advantage be allowed to take the place of old, often insect-infested plants that have been under cultivation for a number of years.

Phalaenopsis are making fine progress, and must not be checked from want of heat or moisture. The Moss about the roots should always be kept green, and this will not be if the house becomes dry or the plants are placed in draughty positions. Air they must have constantly, but it must be tempered, so to speak, a constant and regular flow, not alternations of stuffiness and draughty currents. The more vigorous *Aerides*, *Vandas*, and *Saccocauliums*, and the larger-growing *Angraecums* are in the height of growth, and although the temperature required varies with the different kinds, none of them must be checked in any way. A check given now to any of this class of Orchids will assuredly be followed by the loss of many of the lower leaves in winter. Endeavour then to keep them growing vigorously, yet at the same time keep an eye on the consolidation of the foliage as it is formed, for sudden changes and quick ripening up cannot be practised with these beautiful inhabitants of

the Old World tropics. *Calanthes* of the deciduous types are in full growth and require liberal treatment, this being especially necessary when the bulbs are forming. If it is found necessary to use manure water—and it will be if the pots are filled with roots long in advance of the finishing growth—that made from cow manure and soot is the most efficacious and the least likely to do any harm. Be careful to allow plenty of room between the plants, or the foliage is sure to be damaged and decay prematurely, and a clear light is also essential. The less shade these Orchids get all through the year the better. *Thunias* are now for the most part in full beauty, though the earlier plants are over. As they go out of flower the foliage should begin to turn colour, indicating the approach of the resting season. This must be met by a gradual diminishing of the water supply at the root, the atmosphere also being kept drier if convenient. Plants of *Scuticaria Steelii* growing on blocks or in baskets and flowering at this time of year are often kept much too dry, the reason of this being that the short stalks to the flowers render it difficult to pour water on the compost without damaging them. It is hardly necessary to add that this is a great check to the plants, and should be avoided in all cases by carefully immersing the plants in a pail or tub so as to just escape the water to run out if need be. Hang the plants in such a position that the points of the young leaves are not likely to be touched, this being frequently the cause of their failing to extend and turning brown on the points.

In the *Cattleya* house C. *Mossiae*, C. *gigas*, and C. *Gaskelliana* are in flower, and many fine varieties of all these may now be seen. The autumn-flowering C. *labiatissima* is pushing up its sheaths with all its wonted vigour, and, thanks to the bright sunshine and the fact of their having been kept dormant during the winter, those of C. *Dowiana aurea* are also plentiful. These two Cattleyas require plenty of water now, but are both easily damaged at the base of the bulbs if it is used in a cold state. Keep a watch on the sheaths of the latter fine plant, and if the glutinous exudation appears to be hampering their progress, sponge it off with clean tepid water. I have known this to be so bad, that in order to release the sheath it has been necessary to run the hilt of a budding knife between it and the forming leaf, but this is seldom the case if the proper degree of atmospheric moisture is kept up. The earlier plants of *Leilia purpurata* are now going out of flower, these being followed by others that were kept dormant through the winter. A well-known and very successful grower told me recently that in every case where possible he treated the plants in this way, they flowering much more freely than if allowed to grow in autumn and form their sheaths in early spring. To use his own words, they rest all the winter, come away with a rush in spring and every growth produces a flower-spike. And, judging by the appearance of his plants, his mode of treatment is the correct one. A great advantage, too, is the fact of their flowering after the bulk of the spring and early summer blooming Cattleyas is over, the gorgeous blossoms making at any time a special feature in the flowering house. Of quite a different type of beauty is the pretty *Odontium incurvum*, the slender stems clothed with the little rosy pink and white flowers being very attractive. The plants while in flower may be placed in quite a cool house where there is not much atmospheric moisture, this steadyng the newly-formed bulbs and conserving the blossoms at the same time. In the cool house

or in the frames, as recently advised for the summer treatment of alpine Orchids, growth is active and nothing need be added to previous instructions. Keep up a cool, moist temperature, allow plenty of air day and night and keep the plants free of insects. These are all that are necessary, and if carried out, no doubt need be entertained as to a bounteous blossom in due season. R.

Odontoglossum Oerstedii.—A plant of this pretty little Odontoglossum is now in flower, and

occur at various seasons, are sweetly scented and last a month in good condition.

Galeandra Devoniana.—Perhaps this is the most popular in this neglected genus, and I have seen it in flower recently in several collections. The stems under cultivation seldom attain a height of more than about 30 inches, though they are said to grow twice that length naturally. It is not, it must be confessed, an easy plant to grow, but if more care were taken to keep insects, and especially thrips, from it, there would be less difficulty in its culture. The best plants I have ever seen were growing in nearly full sun in a Pine

dipped in a solution of tobacco juice and afterwards syringed with clear water. Cool winter quarters are also beneficial, and as long as the temperature does not fall below 50° by night, the plants are quite safe. The pretty blossoms of this Orchid are each 4 inches across, the lip white with stripes of purple, the latter colour appearing on the sepals. It grows on the banks of the Rio Negro and other parts of South America, and was introduced in 1840.—R.

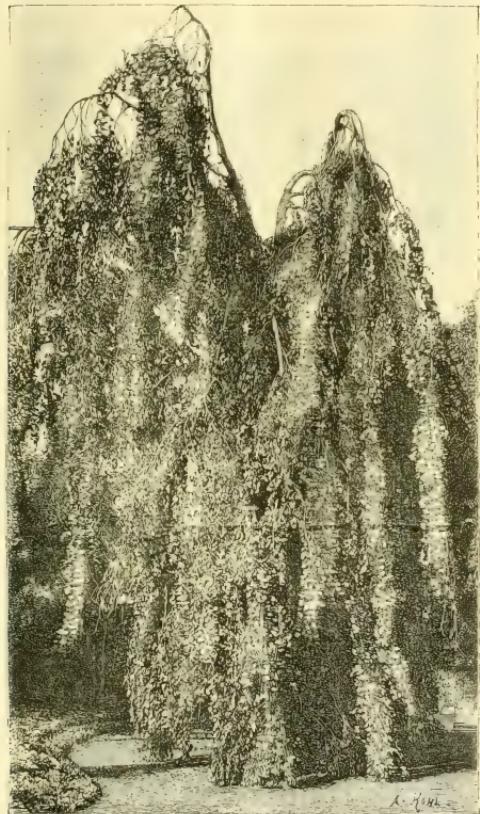
Maxillaria grandiflora.—This pretty old Peruvian species is in flower, and apparently is not very constant in its season of blooming. The plant itself is handsome, with its large, healthy-looking green leaves, and the blossoms are produced on single spikes from near the base of the pseudo-bulbs. They are white on the sepals and petals, the lip yellowish on the side lobes, the middle one yellow. It is an easily grown plant, thriving in pots with good drainage, the compost consisting of peat and Moss, with a little loam fibre for the strongest plants. It should be grown in a light position in the cool house, but shaded from bright sunshine. While growing freely large quantities of water are required at the roots and the atmosphere must be kept very moist, but during winter much less moisture will suffice.

Oncidium pulvinatum.—I consider this one of the most useful Oncidiums in cultivation, and much prefer it to many that are rarer and higher in price, on account of its beauty and freedom of flowering. The pseudo-bulbs are each about a foot high, and from these proceed the long branching panicles of flowers, the ground colour of these being bright yellow with many crimson spots. No difficulty will be found in its culture, the plants being most satisfactory in the Cattleya house in pots, with peat and Sphagnum over good drainage. The flowers are valuable for cutting, the small side sprays working up nicely for almost every purpose that cut flowers are required for. —R.

Oncidium incurvum.—A fine old plant of this pretty Oncidium is now in bloom, carrying twenty spikes, each from 4 feet to 5 feet in length. The individual blooms are small, pure white, with violet-purple markings. It thrives at the cool end of the Cattleya house, and while in flower should be kept in a cooler and drier atmosphere to preserve the blossoms and ripen up the new pseudo-bulbs. It is best grown in pots, and the compost may consist largely of rough turf peat, plenty of crocks and charcoal being added thereto. The flowers last a long time either cut or on the plant, but the plants must be kept well supplied with water while carrying them, otherwise the strain is likely to cause the bulbs to shrivel.

Brassavola Digbyana.—Though sometimes classed as a Laelia, this distinct and handsome Orchid is better known by the old name as given by Lindley in 1845, when it was introduced from Honduras. It first flowered at Minterne House, in Dorsetshire, with Mr. E. Vincent Digby, after whom it was named. The bulbs are short, club-shaped, and each bears a single leaf of a light glaucous green, the flowers appearing just above the apex of these. They are 4 inches to 5 inches across, the sepals and petals yellowish, the pretty fringed lip creamy white. A good light and plenty of heat and moisture are necessary to grow this plant, but when the growth is complete it should be rested by keeping it cooler and drier. The flowers last well in good condition and are sweetly scented.

Cypripedium lavigatum.—This fine old species blooms at various times in the year, and the flowers last a long while in good condition. The foliage is long, deep green, and thick and fleshily in texture. The flower spike attains a height of about 18 inches and produces several blossoms. The dorsal sepal is white, striped with purple, the petals drooping, yellow below, sometimes tipped with rose and having several blotches in the centre; the pouch dull yellow. It requires more heat than most kinds, and may otherwise be treated similarly to the longifolium types. It is



Air and shade : Type of weeping native tree. (See p. 37.)

small though the blossoms are, they are perfect in outline and in the purity of their segments. It is found at Costa Rica, but at a considerable elevation, so that a cool house suits its requirements exactly. I like to keep these small plants well up to the light, though cold shade is necessary at this time of year. The roots must not be overburdened with compost, small shallow pans suiting them well. The plants must be kept moist all the year round, and the blossoms, which

stove, heated partly by hot water, but with a large fermenting bed in which the Pinnae are plunged. The moist heat generated by the latter is very distasteful to insects, and also helpful to the growth. This cannot, of course, be provided in a glasshouse, but a good deal may be done by keeping plenty of moisture in the atmosphere and by occasionally fumigating with one of the improved methods now so much used. If this is inconvenient, the plants should be frequently

a native of the Philippine Islands, and was introduced by Messrs. Veitch in 1863.

Dendrobium formosum giganteum.—This may be considered the best of the nigro-hire-atu group, and is a really good Orchid when well grown. It is plentiful enough to be always cheap, and should be grown in the warmest house. The young growth usually starts in early spring, and the blossoms are produced from the apex of this, as well as from the older pseudo-bulbs. It is not unusual for this plant to flower twice in a year, but if it can be kept to an annual routine of growth, rest, and flowering, it is healthier and longer-lived under cultivation. It will be noticed that many of the plants that flower out of season start very weakly afterwards, and this may be accounted for by the fact of the energies of the plant being devoted to building up the blossoms instead of going to the new shoots.

ONCIDIUM LANCEANUM.

I HAVE now several plants of this pretty Oncidium in flower, and they show considerable variation both in colour and size, those with broad, deep violet lips being very attractive. It is a species that some growers make little of, while others do it well, and I am sure that locality has also something to do with its being healthy or the reverse. As is well known, it is a free-growing plant, constant and free blooming, and if once healthy and strong there is little difficulty in keeping it so. Most growers are aware, on the other hand, how difficult it is to bring back to health plants that have got into a bad condition before coming into their hands, and I would strongly recommend anyone commencing its culture to obtain either well-grown, established specimens or newly-imported plants. It may be thought that, possessing no pseudo-bulbs, the plant would be difficult to establish; on the contrary, it may be injured to our artificial climate with the greatest ease, the large, thick-textured leaves holding a considerable amount of nutriment, and to a certain extent acting the part of pseudo-bulbs. It is not a fastidious plant, the roots being vigorously produced and strong enough naturally to push into a fairly good body of compost. They are also longer-lived than the roots of some Orchids, and the plants should on this account be disturbed as little as possible. For this reason I always use a good proportion of Sphagnum Moss in the compost, thus by its decay forming a ready store of nutriment, the green tops forming fresh material for the upper tiers of roots. At least three parts of this material then may be added to one of good peat fibre, a liberal admixture of crocks and charcoal being necessary to ensure aeration and a good mechanical condition of the whole. If the plants are to be grown on blocks—and this is the capital plan provided they are well looked after—Sphagnum only is needed, the blocks being of good size to allow of free root action. I like to see the roots of this Orchid, or some of them at any rate, for no better index as to what the condition of the plant is exists. It is also advantageous to them to be dry for some time every day, for this condition is bound to occur naturally. Let the atmosphere at mid-day dry up a little during the summer and the plants will, I am confident, be all the healthier for it, and not so likely to contract that disfiguring spot that has ruined hundreds of plants of this species. No distinct growing and resting seasons are required for *O. Lanceanum*, as it is growing nearly the whole year. The roots ought to be watched nevertheless, and when these are most active, then the temperature should be most stimulating and *vive versé*. This will be found preferable to resting them during stated times of the year, for if good growth is

made flowers will be produced in plenty, the plant differing from many others in this respect. A high temperature and plenty of sunlight and atmospheric moisture are the conditions. *O. Lanceanum* enjoys while growing, and in the warm house the flowers are generally produced at midsummer or a little later. The scapes rise from the base of the leaf and bear few or many blossoms, according to the strength of the plant. If placed in a rather cooler and drier house while in bloom, the flowers last about five weeks in good condition. The sepals and petals are greenish yellow, with blotches of brownish chocolate, the lip, as mentioned above, varying considerably in colour. The flowers are pleasantly, but not strongly scented. It is a native of British Guiana and Surinam, and was discovered in 1834 by Mr. Lance, whose name it bears.

H. R.

ORCHIDS FROM EDINBURGH.

I AM forwarding you a bloom of a very dark variety of *Oncidium crispum grandiflorum* for your opinion, also blooms of *Odontoglossum Schlechterianum flavidum*, *Masdevallia Peristeria* and *Dendrobium infundibulum*, all of which have been grown cool in company with *O. crispum*, &c., and a general collection of *Masdevallias*, which are not nearly so much grown as they deserve to be. The *Masdevallias*, certainly as easily grown and flowered as *Pelargoniums*, are of much more interest. I think that a good deal of nonsense is written concerning them, as I find from several years' experimenting that they will grow in almost anything, either alone or in combination—to wit, loam fibre, peat fibre, Sphagnum either in mixture or separately, with a good sprinkling of broken crocks. I never hesitate to use a handful or more of bones broken small both in compost and as drainage, and as showing results, some dozens of little pieces of say three or four leaves in 1892 are now from 1 foot to 2 feet over, some with 300 leaves, and they flower freely. It is not uncommon to have from twenty to thirty spikes in a 5-inch pot. M. *Shuttleworthii* in a 2½-inch pot had twenty-one blooms in the spring. I find that the whole secret, if one is a thoroughly damp atmosphere summer and winter, and a range of 50° minimum to as little above 65° maximum as possible all the year round, under which conditions all kinds of the genus thrive. I did try *M. tomentosa* along with the *Cattleyas*, but not so successfully as with the *Odontoglossums*. Keep the atmosphere and temperature as stated, with not over-much soil about the roots, keep the plants clean, and when in active growth give weak guano water at every third or fourth watering, and you will see a revelation of plant growth, such as *M. macrura*, having leaves 14 inches long and nearly 3 inches wide; *M. Harryana*, with leaves like a *Cattleya gigas*, 16 inches to 18 inches in length and 2½ inches wide.—H. J. HUNTER, Edinburgh.

* * * The flowers accompanying this note were of good form and colour, and apparently the produce of well-grown plants. *Odontoglossum Schlechterianum flavidum* is rather an uncommon form, similar to the typical plant in all except the colour of the blotches. These are of a deeper yellow than the ground colour of the sepals and petals and show only faintly. The bloom sent represents a fairly good variety. The bloom of *O. crispum grandiflorum* is large and well coloured, but the segments lack the yellow margin that is such a set-off to the best forms of this Orchid. *Dendrobium infundibulum* is very good and distinct, the sepals well thrown back and showing the flower to great advantage. *Masdevallia Peristeria*, so-called from the likeness of the internal part of the flower to the Dove Orchid, is a quaint and very interesting species, but the flower sent is rather a poor variety.—E.D.

Odontoglossum blandum.—A plant of this *Odontoglossum* is now in flower, though its usual season is long past. The blossoms are white in ground colour, with many spots and blotches of

reddish brown. Though lacking the size and substance of the *crispum* and similar types, these little starry species make a pleasing variety. *O. blandum* should be grown in small pots, kept well up to the light and near to a ventilator if possible. A constantly cool and moist atmosphere should be kept up about it, and the roots must never be allowed to become dry.

Cattleya gigas imperialis.—The best plant of this fine *Cattleya* I have had this season is now in flower. One of the spikes has five blossoms, each about 8 inches across, the pretty rose petals being broad and well set back. The eye-like markings peculiar to *C. gigas* are very distinct on the finely-formed lip. Few *Cattleyas* can beat this for beauty, and it is free flowering enough if treated as has often been recommended in THE GARDEN—viz., grown well in early summer, well ripened, and kept dormant during the winter months.—R.

Masdevallia mucosae.—This very rare *Masdevallia* is finely in flower at Cambridge Lodge, the plant carrying about two dozen flowers. It is very dwarf in habit, and the flower-spikes are closely covered with yellowish white downy hairs. The sepals, petals and part of the lip are exceedingly delicate in texture and almost transparent, clouded white. The latter organ has a triangular chestnut marking in front, and this on being touched immediately commences to rise until it meets the column, this being the only known instance of a *Masdevallia* with a sensitive labellum. The flower-spikes attain a height of about 7 inches or 8 inches.

Epidendrum O'Brienianum.—This was the first artificially raised hybrid in the genus, and have seen it in several collections this week. It was raised by Messrs. Veitch, and first flowered about 1888. Its parents being *E. ciliatum* and *E. radicans*. The sepals and petals are a bright orange-scarlet, the column tipped with yellow—a bright and effective combination. The rather loose racemes occur at the apex of growth, and it is apparently free flowering. It does well in an intermediate temperature, and the compost may consist of peat and moss used in a rough, open condition.—H. R.

EPIDENDRUM VITELLINUM.

THE quiet neutral tints of colour, their often quaint distribution, and the delicate substance of the flowers distinguish the species of this genus that have made the family popular for individually hardly any flower is so structurally interesting and beautiful as an Orchid. When seen collectively in groups, or viewed as a whole from a distance, there is notwithstanding often a sombre look about them, especially when not arranged with bright-foliated plants. This cannot always be avoided, but if plenty of the rich scarlet species named above were grown, it would to a great extent be obviated at this season. It is an excellent Orchid in every way, easily grown, free blooming, and long-lasting, and has especially this merit of brightening up other Orchids by its display of colour. To discard it because it is common in the too frequent acceptance of the term is very unwise, showing a love for Orchids because of their rarity and money value rather than their beauty and utility. There is not another Orchid in existence that adapts itself to various modes of culture, or different temperatures so readily, and it is on this account more than perhaps any other that amateurs with little experience in Orchids should give it a place in their collections. Like many other Mexican kinds, it likes to be in light shade, the major part of the time, in the best of all places to grow it in is a house kept rather higher than that for *Odontoglossum* and cool house kinds generally. Here the growth will be more free and the spikes larger and more highly coloured than if much shaded and very cool. It thrives in pots well drained and large enough to take the plants easily and allow a fair margin for compost. This may consist of equal parts of turfy peat and Sphagnum Moss,

to which add plenty of rough material, as crocks or charcoal. The base of the plant may be elevated a little and the compost bedded firmly about the roots, trimming off all ragged ends afterwards. Newly imported plants are easily established by potting them up in clean, rough, potsherds, placing these right up to the bulbs to conserve the moisture a little. They will usually start growing quickly, but until signs of rooting appear the compost ought not to be placed near them. As soon as this is the case, lose no time, but remove a few of the upper crocks and replace them with the peat and Moss. The roots will then enter this while still fresh and flourish accordingly; whereas, had it been put on before, the watering would have fined it down to a certain extent. The plants after this must never be dried, but always watered according to the state of growth. It usually blooms on the first formed bulbs, and will, if treated with reasonable care, go on and bloom annually, the growth each year getting larger and the plants more satisfactory in every way.

DENDROBIUM MACARTHRIE.

THIS pretty Dendrobie is unfortunately rather difficult to grow. When really well done it is a magnificent plant, but the puny, weak bits that are sent out from some nurseries are of no use they will never make plants. It is seen in a good collection and may well be the best available. It used to be imported in larger quantities than now, plants being seldom offered within the last few years. Newly-imported plants, if they have not suffered too much in transit, are superior to any that have been in cultivation for any length of time, and when procurable should be obtained. They will usually start away vigorously at once, and should, in consequence, be placed in pots or baskets, using a compost that will not require renewing for some time—this first shift often being the beginning of a backward tendency in the plants difficult to arrest, and ending in their passing into a weak, debilitated state, so that nothing can be done with them. The trouble with *Dendrobiium Macarthrie*, as with so many other difficult subjects, is to maintain a constant supply of fresh air without at the same time destroying the balance of the temperature as to heat and moisture. What it seems to require is a house dripping with moisture from February till November, strong heat and an ever-changing atmosphere. Easy enough to get, some inexperienced grower may say, but let him try and keep it up, and he will soon find out where the difficulty comes in. On calm, bright days it may be done easily, and even when the weather is cold and dull the requisite heat can be kept up if there is plenty of piping in the house. It is when a cold wind blows under a bright sun that the elements inside are at war and the temperature is difficult to keep steady. If air is put on at the top of the house, draughts are caused that chill even the hardiest of tropical Orchids, let alone a plant so fastidious as the one under notice; while if the top ventilators are kept close, the cold air coming in below forces the warmer air up to the roof, making the house feel stuffy and close. Still, each grower must do the best he can under existing circumstances, and other cultural details being satisfactorily attended to, success for a few years at least will reward his efforts. The plants should be suspended at a little distance from the glass, and while in active growth—as they are nearly the whole year round—give a good supply of water to the roots, a short, dry rest afterwards completing the season's treatment. The blossoms, which are produced in racemes of from three to six, are of a bright rose pink on the sepals and petals, the lip nearly white in ground colour, with blotches of purple and maroon. The flowers do not open so fully as those of most Dendrobies, but this rather adds to their charms from their beauty. It is a native of dense forests in Ceylon, and was introduced in 1855.

Oncidium flexuosum.—There can hardly be a more useful Orchid than this graceful *Oncidium*

where choice cut flowers are required, while for grouping with other Orchids in the flowering house its good points are not sufficiently recognised. It is very free blooming, and after the tops have been cut off for small sprays the spikes frequently break lower down and produce a second crop of bloom. It is not particular as to temperature, doing well in the cool house, but in a Cattleya house it will grow much stronger and flower quite as freely. It may be grown in baskets or pots in a compost consisting of two-thirds of Sphagnum to one of peat.

CHRYSANTHEMUMS.

CHRYSANTHEMUM NOTES.

Hot bursts of sunshine such as prevail at the present time cause a rapid, but satisfactory growth. There is one thing, however, that must not be neglected at these times, and that is watering. Once forget that the plants need attention, and a great amount of mischief is done. When inspecting the collections of amateurs which are perhaps unduly flagging, I am sometimes asked if harm is likely to result. The proper flow of the sap is of course hindered and the loss of leaves pretty certain. Now this latter circumstance is one I know the most dreaded by amateurs generally. I find in cultivating Chrysanthemums for large blooms, when each plant is allowed to grow to its natural height, one cannot prevent the loss of the lower leaves in the case of some sorts. Mme. Carnot—the fine white Japanese flower which is already so popular—has this undesirable habit. Many persons will no doubt treat this variety too kindly with manures. Like most of the white sorts, its roots are delicate and easily overdone. I would give it a fair amount of root room, but the soil must be comparatively poor. It has a tendency to become overgrown, and although large leaves are looked upon with pleasure and pride by the grower of such plants, I am not so sure that in the case of the sort mentioned and other similar ones, as the season advances they will be altogether satisfactory. Nivene, Souvenir de Petite Amie, Mlle. Thérèse Rey and Avalanche are a few other white Chrysanthemums which occur to me we ought to take care not to overdo. I am always anxious about them, even with water, and examine each plant properly before any is given. Some sorts of other colours—say, Sunflower, E. Molynex and the like (strong growers)—it seems impossible to over-water or kill with stimulants when the plants have got over the small stage.

FLOWER-BUDS.—The time is not far distant when we shall be puzzled as to bud selection. Even thus early a number of sorts are giving crown buds, which in some seasons have retained to produce the desired exhibition blossoms, but these will not be selected now. Early July is an excellent time for crown buds to come, because one may nip them out and allow another growth upwards with the certainty of obtaining a well-timed crown bud about mid-August. Do not retain flower-buds which appear in July is, I think, good advice. These do, indeed, swell up and look most promising up to a certain time, then other little buds are noticed pushing out of them, and finally the hen-and-chicken monstrosities are developed. Occasionally one may get a well-shaped blossom by early bud formation, but without exception they are wanting in colour and the florets are comparatively thin and devoid of substance.

THE NOVELTIES.—Dwarfness of growth is observed in the case of many of the recently raised

sorts. This, of course, is a great gain. Nothing tends so much as a tall habit of growth to render even an otherwise good kind unpopular. Mrs. W. H. Lees, for example, so huge in size at exhibitions, is a loose, ungainly grower. Edith Tabar is as yet none too handsome in habit of growth. Reine d'Angleterre, M. Chenon de Leche, President Carnot, Directeur Tissende, Boule d'Or (Calvat), Le Monchette, Mme. L. Lacroix, and R. Ballantine are, on the other hand, excellent in this respect. The English seedlings, Mrs. H. Weeks, Mrs. John Shrimpton, Dorothy Seward, and Mrs. Hermon Kloss, are also capital growers. I notice that the last three—in fact all, are late in forming flower-buds. I should imagine the variety Mrs. Falconer Jameson as one of the parents of all excepting Mrs. Weeks (from Mrs. Alpheus Hardy, also a late one), and should think topping the plants in May will be found advisable. This plan was adopted with some of the plants, but where growers have but one of each, experiments are hardly possible, and it is not, therefore, until the second year of cultivating the novelties that the many are able to obtain satisfactory results, at least with some of them.

INSECTS.—In a former note, the unusual abundance of green and black aphis was mentioned, and the difficulty of coping with them. I found soot-water cleansed the leaves as well as anything. It was the practice to water small plants through a rose-can with the above, and noting that the aphides diminished, I tried sprinkling larger plants also with the same excellent results. As a fertilising agent, soot has hitherto been regarded a good one—perhaps the best of all—to use for Chrysanthemums, but it was not until this season that its cleansing powers proved so useful too. This cheap and easily obtained manure is not used nearly enough. It is, I suppose, too common. Yet in this neighbourhood, where plant nurseries of every description are located, it is the staple article for dressing the land. I have been asked of late repeatedly how a capital crop of Tomatoes is fed. When soot only is mentioned I am scarcely surprised. The leaf-mining maggot is not unduly troublesome this year. Now and then a leaf is seen which marks its run. Such leaves are promptly removed. Nor are earwigs with us in very large numbers yet. Tiny thrips, however, revel in a summer like the present, and a timely dusting of tobacco powder on the points of the stems may save many from what are known as "blind" points.

STOPPING THE SHOOTS.—For bush plants should not be done after July, not even in the case of those intended to produce a supply of late blooms. A considerable length of time is necessary for the growth to get matured well enough to develop a large quantity of flower-buds. Needful tying should never be neglected, nor superfluous side shoots allowed to grow so as to rob those that are to eventually bear the blossoms.

H. S.

Chrysanthemums losing their leaves.—Herewith I send you a box of Chrysanthemum leaves, and shall be glad if you can tell me what is the matter with them and how to cure or prevent them getting worse. Last year they were attacked in the same way and many of the lower leaves died—in fact, on some plants almost all came off. They have been kept clean from fly.—SOUTHGATE.

. The leaves do not appear diseased. Their decay, we would suggest, is likely to have been caused by over-dryness. If the plants are allowed to flag for want of water, the sun affects the leaves in the manner of those sent. A few of the leaves have turned yellow through some unknown cause peculiar to a few varieties. For instance, it

is a rare occurrence to find plants of the white Christmas Eve and the newer Mme. Carnot that retain anything like all their foliage. The compound name, too, are unnecessary for fly on Chrysanthemums. It has been noticed in practice that such leave a deposit on the foliage, and if allowed to dry on, strong sun is bound to do some mischief. Precautions advisable in their application are: they should be used in the evening and the sediment washed off with clean water before the sun comes up the next morning. The better plan in the future would be to use tobacco preparations for all kinds of aphis. The powder may be puffed on to the leaves, and it will not do injury, or the foliage may be sprayed with the liquid from tobacco. Quassia chips, again, is a simple remedy, and soot is valuable if sprinkled over the foliage in a liquid state. Sulphur is the best preventive of mildew. — ED.

AUSTRALIAN CHRYSANTHEMUMS.

The raising of new seedlings still occupies an important place in the cultural work of colonial growers. The New South Wales Horticultural Society held its annual show in Sydney on April 22 last, and although the exhibits were few—numbering only six—owing to the death of M. Von der Heyden, whose gardens at Mr. Kewdale, Sydney, that first novelties, *Oceana*, certificate by the N.C.S. here last season—the quality of the flowers staged was considered to be superior to that of previous years. A large influx of country exhibits was a gratifying feature of the Sydney show, but a report of it would scarcely be of sufficient interest to English readers.

It is, however, useful to record the names of the colonial seedlings that were certificate by the Australian floral committee, as these varieties may possibly find their way into our collections. They are as follows: R. Forsyth (T. W. Gates), a large Japanese incurved, colour dark lilac; Wallaroo (S. B. Levick), a large rosy lilac Japanese; J. R. Upton (Mrs. J. Upton), Japanese, bright golden yellow; Mrs. J. Upton (Mrs. J. Upton), a lilac incurved Japanese, of great size and depth.

Readers of THE GARDEN will no doubt remember that some of the Australian novelties, such as *Oceana*, *Australie*, *Pride of Madford*, &c., proved to be excellent additions to our lists last season, and there are others in the hands of the trade which will no doubt be seen in good form during the coming autumn.

C. H. P.

THE CHRYSANTHEMUM.

In the first number of the new French magazine entitled *Revue Générale Internationale* is an article by M. Henri de Vilmarin upon the Chrysanthemum. The author deals with the subject in a very ample manner, and the illustrations accompanying the article, numbering ten or a dozen, are excellent black and white representations of the varieties they are intended to depict. The most striking are *Lilian B. Bird*, *Yellow Dragon*, *William Falconer* (hairy), *Étoile de Lyon*, *Boule d'Or*, *Souvenir de Haarlem*, and one or two more. An illustration is also supplied of the original type. History, physiology, and cultivation are the subjects fully treated, and indeed for a magazine article M. de Vilmarin's contribution is not only interesting, but comprehensive, for he covers a wide field, beginning with oriental history, including some observations on the blue Chrysanthemum, and passes onward through the early European history down to a survey of the recent achievements by English, French, and American growers. A short extract from Pierre Loti's description of the Imperial Chrysanthemum Fête at Tokio is given and much other useful information, but we notice in two places a little slip in the name of the introducer of the flower into Europe, which is given as *Blancard*; whereas *Blancard* is the proper spelling.

On the subject of classification, M. de Vilmarin divides the famous oriental composite into five

principal groups, viz., *Anemones*, *pompons*, *incurved*, *hybrids*, and *Japanese*, which last section he agrees may also be again sub-divided into at least four distinct groups, or *Japanese Anemones*, *Japanese incurved*, *Japanese reflexed*, and *Japanese hairy* varieties.

Cultivation, of course, must be considered as written from the French grower's standpoint, and it is indeed of late that the most enthusiastic of the French growers have given a great deal of complaint at the able way in which the subject is being treated by able French horticultural writers. We shall look forward at no distant date to find the French exhibitors quite as capable exponents of the art of big-bloom culture as our own, for the desire to excel is everywhere becoming more manifest in that country.

C. H. P.

Disbudding Chrysanthemums.—In taking off the June or stem-bud, should the shoot accom-



Air and shade: Type of shade-giving weeping trees. (See p. 37.)

panying it be left as one of the three that are to remain on the plant, or be pinched off with the bud? I find, as a rule, that this shoot in the case of terminal flowers does not give as good a bloom as of surrounding shoots.—E. ALLEN.

* * When there are more shoots than the number required surrounding the stem-bud, it is advisable to remove the nearest growth as well. The bud in its formation appears to take some of the strength of the closest growth, thereby causing the same to be slightly behind those immediately below. You are right, therefore, in the matter of terminal blooms being comparatively inferior, as a rule, from such shoots.—ED.

GARDEN FLORA.

PLATE 1075.

GARDEN HYBRIDS OF NARCISSUS TRIANDRUS.

(WITH A COLOURED PLATE.*)

It is strange that the exquisite little *Narcissus triandrus* should have been well known to English gardeners only a dozen years. To botanists it has, of course, been known for centuries, but it was, I think, in 1885 that it was first offered in Messrs. Barr's Daffodil list at a guinea the dozen. Yet no further away than the neighbourhood of Oporto it grows, as Mr. Oswald Crawfurd writes, "by every wood and the margin of every brook." To those who were interested in *Narcissi* the advent of

this very charming little species was welcome, not only for its own sake, but for the new forms that it was likely to yield when crossed with our larger and harder garden Daffodils. This likelihood became a certainty when Mr. Alfred Tait, of Oporto, found and described in 1886 a very beautiful natural hybrid between *N. triandrus* and a wild Portuguese trumpet Daffodil, and when other

* Drawing for THE GARDEN by H. G. Moore from flowers sent by the Rev. G. H. Englhardt. Lithographed and printed by J. L. Goffart, successor to Guillaume Severeys.



GROUP OF HYBRID NARCISSI

hybrids similar in general character to this N. Johnstonii, as it had been named, came to light by the research of Mr. Peter Barr and other collectors. The best known of these is N. Queen of Spain, a yellow variety, which has been brought to England in such large quantities that we must apprehend its extermination in its Spanish habitat. The first artificially produced hybrid of triandrus was raised simultaneously by Professor Michael Foster and myself between it and the white Corbularia (N. monophyllus). This pretty white-flowered plant may be

flowers (often two on a scape) is drooping and Fuchsia-like. These features they invariably inherit from the triandrus, while the other parents give increased size, vigour and hardness. Curiously enough, one of the most robust of all my plants thus raised is one between N. triandrus and N. albicans, the latter proving of weak constitution and difficult to establish in mine, as in most English gardens. The hybrid, on the contrary, blooms and increases with the utmost freedom. A two-flowered stem of this variety, which I have sometimes exhibited under

which rarely or never bear seed by their own pollen, or that of other garden varieties, are readily fertilised by N. triandrus, which has thus added and will still add a new element of much beauty and diversity to our Narcissi.

GEORGE H. ENGLEHEART.

THE WEEK'S WORK.

KITCHEN GARDEN.

TOMATOES FOR WINTER.—Where Tomatoes are wanted for salads or for using uncooked throughout the year, the preparation of young plants for fruiting during early winter must now be taken in hand, as it will not do to depend on laggard fruits which are picked from the outdoor plants while still unripe and coloured up under glass after being picked, as such fruits, though valuable for cooking, are generally insipid and flavourless, or badly flavoured. Even where the cultivation of Tomatoes goes on under glass throughout the year, it is no uncommon thing to find that those grown for winter are under-sized and not so good as they might be, not because they are of a naturally small variety, but because they are the fag-end of a crop borne by plants which have already carried and ripened many fruits, and become somewhat starved in the process. My own experience is that plants raised from seed sown now will be much more satisfactory than any such, as there is still time to get a nice set of fruit before the days go short and the sun loses much of its power, and such plants are well suited for growing in narrow pits where there is not much room for great lengths of stems. The production of winter Tomato sometimes gives considerable trouble, especially in places where fogs are prevalent or where the houses are badly ventilated low-pitched structures deficient of light. In such cases the only chance of success is to get the plants established in their fruiting pots or boxes, and the fruit set early, governing the season of ripening by judicious management of the heating arrangements, always remembering that Tomatoes will resent any undue forcing in winter. Those who are fortunate enough to have very light and well ventilated houses—especially if these are well above the fog line, will escape many of the difficulties which beset less fortunate growers. There will be no difficulty in keeping plants raised now, sturdy from the first, and this is the most important point which the grower has to bear in mind. Seed, if sown in the usual way—i.e., thinly in pots or pans, and stood in a little gentle heat—will soon germinate. The seedlings should be potted off into 3-inch pots, from which they will require one shift before being finally potted into the fruiting size—9 inches, or planted in narrow boxes. Grow on from the first in full sun, with the pots stood thinly on a cool bed of coal ashes. I like to give the final shift just when the first bunch of flowers opens, as if left later than this the plants do not get re-established before the blossoms open, and these will then drop off instead of setting. For soil nothing rich should be used, but I like to give a liberal quantity of moist rubble at the final shift, this keeping the soil sweet and the plants healthy. Plants may also be raised from cuttings struck early in next month and treated afterwards as recommended for seedlings, but I prefer seedlings, as I find them quite as free fruiting, swelling their fruits more kindly and being less troublesome throughout. Conference is my favourite winter fruiting variety and can hardly be beaten. Horsford's Prelude I also grow, as it is very free indeed, but the fruit is inclined to be small. Abundance is also most free, and I thought at one time that it would take a front position, as it set so well, but further acquaintance proves it to be inferior in flavour and texture to the others named. Ladybird is a very free variety and most handsome on the dish, and I like it much, but do not find it quite so sweet and luscious as Conference.



Air and shade: Shaded walk, Belvoir. (See p. 37.)

seen at Kew. It is not quite hardy, but succeeds well in a cold alpine house or frame. In successive years I have flowered many more hybrids, the results of crossing triandrus, which is extremely fertile in both seed and pollen with our best garden Narcissi. I do not know one which is not beautiful, and some of them are, to my thinking, altogether lovely in their grace of form and their delicacy of waxy texture and refined colouring. Such words as ivory, cream, sulphur are those which best describe their tints, while the poise of the

name Snowdrop, is shown on the accompanying plate. Below it is one very similar, but a little shorter in the crown, the offspring of N. triandrus and N. cernuus. The parents of the topmost flower are N. triandrus and N. poeticus; of the two larger yellow flowers on the left of the plate, N. triandrus and N. Emperor. Large two-coloured forms have been yielded by my crosses with such fine bicolor Daffodils as Horsfield, Empress and grandis, and very lovely white flowers by those with Mme. de Graaff, Minnie Hume, &c. Kind

JULY 18, 1896.

TOMATOES (CONTINUED).—These are doing remarkably well this year, and most of the bunches have set more fruits than they can carry fairly to perfection, and will be benefited by a slight thinning out of the worst placed fruits, six being about the maximum that bunches should be allowed to carry if individual fruits are wanted of full size. Personally I do not thin for size, but simply remove imperfect fruits or any that are cramped for room and rely on good feeding to swell the crop. I am more than pleased with those plants for which a heavy dressing of gas lime was used in the soil, these being remarkably sturdy and short jointed, and with bunches at very short distances apart. All are now getting liberal doses of water, and feeding with manure water will be begun forthwith, care being taken to slightly stir the surface-soil whenever it gets a baked appearance. Tomato growth being heavy, it will be necessary to go round the walls frequently and nail back the tops, allowing plenty of room for the stems to swell under the shreds and removing all lateral growth before it gets strong enough to rob the fruits.

POTATOES.—The end of the drought has not yet come in this district, and all but the latest varieties of Potatoes are showing signs of growth being checked. Fortunately there were no checks from spring frosts, and all the second early varieties which were planted in good time will be fit for digging by the time these notes appear. I advise that in all similar cases lifting shall take place before rain falls in any quantity, as this will prevent the tubers from making a second growth which would spoil their quality. I am not so anxious about this in the case of the latest early. As-hope, and older varieties, will make only a limited amount of top growth, but also for such strong growers as Windsor Castle, Early Puritan, and like. I lifted to day some roots of Windsor Castle and found the tubers of full size and with the skins fairly well set; further delay in lifting these would be productive of no good, and harm might come from disease or from making a second growth in the event of rain. Early lifting is especially advisable when the Potatoes are growing in close proximity to Tomatoes, for though the latter are slow to take the disease unless it is transmitted to them from Potatoes, there is no mistake about their susceptibility to it when it comes to close quarters with them. All Potatoes lifted now should be carefully handled and should be stored in dark and cool quarters after being allowed to lie on the ground for an hour or two (not longer) to set their skins. Avoid making large heaps of the tubers for the present, as they will be safer if well spread out in the cellar or store house.

VEGETABLE MARROWS.—The early lot of these will have, in most cases, reached their limit as to spread, and may have the points of the leaders pinched out with a view to encouraging lateral development. The bright and dry weather has made the plants very productive in their early stages this year, and where they were planted, as I advised, on a good bed of manure and leaves the crop is enormous. To keep the supply at its fullest, cut all the fruits while they are yet young and feed the plants by watering liberally. Should big fruits be desired for any purpose, select a few on one or more plants to allow these to develop, instead of allowing all the plants to bear some big fruit, for once seed production is allowed there is practically an end to free growth and the production of a good supply of marrow for the table. If a slight attack of mildew allows itself dust the foliage on both sides with flowers of sulphur, but by far the best means of keeping mildew at bay is to treat the plants generously, keeping down the production of big fruit as advised above. Overtaxing the plants is a certain producer of mildewed foliage.

GENERAL WORK.—This will consist largely until the drought has passed in keeping those crops which most need it well supplied with water; any failure to do this after watering is once started will result in a collapse. I need not again

particularise those things which derive most benefit from artificial waterings, as I dealt with the subject in my notes a few weeks back. See that the haulms of Potatoes among which green stuffs are planted is prevented from smothering the latter by being turned towards the unoccupied alleys; a little timely attention of this sort makes a lot of difference in the ultimate welfare of the green crops grown in this way. Seeds of all kinds for present sowing in bulk will be best kept in their packets until the ground is in better condition to receive them, waiting a few days for a change in the weather often leads to quicker growth and consequent higher quality. Any fear of a break in the supply of such things may be avoided by making small sowings, sufficient to provide for two or three weeks' supply, and giving these some extra attention throughout.

J. C. TALLACK.

FRUIT HOUSES.

FIGS.—The earliest batch of these that were forced in pots will soon be ripening their second crop of fruit, and will, therefore, need careful watching. It is not well to over-water at this stage; at the same time sufficient must be afforded to keep the plants in a healthy condition. All who are acquainted with the cultivation of Figs in pots know too well the risk of allowing the soil to get dry; they will, therefore, readily understand the amount of water needed to keep the trees in a healthy condition, but at this stage more than extra care is needed if the fruit is to be of the best possible quality. If too much moisture be given and a dull day or two follow, the fruit is apt to split, which would render it useless, especially if it had to be packed for travelling to a distance. It is seldom that Figs growing in pots are overfed during their growing stage, and there need be little fear of over-robust growth from heavily croppcd trees, particularly if they are taken out of the bed in which they are plunged in the autumn and a portion of the roots that have grown through the pots removed. Such trees will rather need be well supplied with nutriment to keep them in a healthy condition, and this may be supplied in the shape of liquid or artificial manure. The syringe must be freely applied to keep all insect pests in check, especially when the fruit is ripening. At this time of the year, when the sun has such power on the glass, and it is not possible to syringe the trees, the surface soil beneath them should be frequently dampened down so that the moisture may help to keep these pests in check. If the house be closed early after a heavy damping down, the moisture will settle on the leaves, and so assist in promoting a healthy growth, particularly if a little guano be added to the water used. There is not the same labour attached to Figs planted out as with those grown in pots, but great care is needed to bring heavy crops to perfection, as a little neglect or oversight frequently results in the loss of the finest fruit. Trees on the open walls in the south will soon begin ripening their fruit, and where the soil has become dry, water should be afforded to induce the fruit to swell more evenly. Young Figs will shortly be forming on the lower portion of the current season's growth. When these have attained the size of small marbles they should be rubbed off, as they will not ripen this season, and being too forward to withstand the winter, would be killed by the frost. A second batch of Figs will form in the places from which the others were removed, and these, being much smaller, will survive the winter and start to swell again in spring. By this practice a full crop may be ensured unless the winter be of extraordinary severity.

PINES.—It was formerly the practice with growers to repot these at certain dates, the houses being re-arranged at the same time. Experience, however, teaches us that all plants do not make the same progress, and should therefore receive attention according to their requirements. It often happens that more suckers are rooted than

can be found room for, and if these are potted with a view to being grown on, crowding is the result. Better by far when examining the young stock select the number required to fill the fruiting house, and throw the others away, than to pot up all and afterwards find that some of them will have to be discarded. With Pines, as with other plants, room must be afforded for the foliage to develop properly; therefore, there ought not to be any overcrowding from the first. At this season of the year, when the outside temperature is high, the roots soon get dry, especially in the case of those plants that are at all pot-bound, and if they are allowed to suffer from want of moisture, they will start to fruit prematurely. It is impossible to give any definite instructions as to watering, as soils vary so much; but if those in charge of the plants note carefully how it dries in the different pots, they should have no difficulty in ascertaining how the roots are progressing. Where there is a marked difference, the pots will be filled with roots while others will not be more than half full. This being the case, it is very evident that all do not require watering alike; therefore great care should be exercised in doing so. Loosely potted plants and those grown in spongy soil are more likely to suffer than others, so that due regard should be paid to this at the time of potting. It sometimes happens that when suckers have remained too long in their first pots they will start to fruit when they receive a shift; this is doubtless owing to a check they receive previous to being repotted. Pines may easily be induced to bloom prematurely by allowing the roots to become pot-bound or the soil too dry at this season of the year. It should, however, be the aim of the cultivator to first produce sturdy, well-developed plants by careful attention to their requirements, which cannot be if they are allowed to either suffer from want of moisture or be made sickly by overcrowding.

GENERAL HINTS.—As so much depends on minor details for the production of fine fruit, it may be well to draw attention to a few simple facts. One of these is the destruction of wasps and other pests. The season has been a comparatively dry one, for although there was a fair amount of rain in June, the fall is sadly below the average, and, from the number of wasps observed in the early part of the season, we may soon expect to see them swarming round the fruit trees in such numbers as to devour everything, the weather being so much in their favour. Where the soil is at all of a loamy nature they are able to burrow and make their nests with greater ease; therefore in such districts pay every attention to their destruction. It is a mistake, as a rule, to attract these insects to the walls by hanging sweets and other things, as the tree better be far taken out of the district and have them destroyed. This may cost a little more in the first instance, but it well repays in the end. The mode adopted by me in this district is to give prizes at the local cottagers' show, which takes place early in August, the only limit being the nests must be taken within one mile of the garden. Prizes of 10s., 5s., and 2s. f.d. are offered, and some seasons when nests are plentiful a great number are brought to the tent. One season the first prize went to a lot of eighty-six nests. Traps should be set for flies, as these do a considerable amount of damage to all choice fruit. Earwigs, woodlice, and other insects that feed during the night may be trapped by placing pieces of Potato in small flower-pots, and, after covering them with dry Moss, insert them amongst the branches of the trees against the walls. Rats and mice are also great enemies to the fruit grower, and these must be destroyed at all costs. Squirrels in some districts are terribly troublesome in the Nut plantations, and as it is difficult to trap these active little creatures, the best mode is to shoot them before the fruit approaches maturity. Pay strict attention to watering fruit trees, particularly on dry, sandy soil, as neglect of this often causes a failure of the next year's crop.

H. C. PRINSEPE.

KITCHEN GARDEN.

ASPARAGUS CULTURE IN SUMMER.

WHEN the season for cutting ceases many beds are neglected, but, in my opinion, that is the time the roots require extra food, moisture and support. At this time of the year, even in ordinary weather, the beds require food, and though moisture may be provided by rainfall, the plants are benefited by liberal supplies of a good fertiliser. As is well known, in many gardens large quantities of manure are placed on the beds in the late autumn; at a season the roots are almost inactive. The roots are not always able to take the food supplied them, and without top growth it is useless to feed. I am aware it enriches the soil and renders it in better condition to support growth. On the other hand, it would do a great deal more good given as soon as cutting ceased, and in the case of old beds, large masses of manure destroy the roots instead of assisting them. If more food were given from April to the end of September, much better results would be obtained. In the case of worn-out or impoverished beds, no matter how much food is given, it cannot give new life if there is no root action, but in the case of healthy plants, food given during the growing season, when the crowns are being formed, gives the help required and builds up better crowns. A heavy dressing of salt—say in the late autumn (November)—does more harm than good. The plants certainly require a certain amount of salt, but not when at rest, as, given then, it acts the reverse of what is intended, souring the soil and keeping the roots at a lower temperature than the surrounding ground. I prefer giving salt from April to August, not later, and even then it should be well washed down to the roots. Another point often lost sight of is the state of the soil. In heavy clay soils the use of salt requires more care and should not be applied earlier than May or later than August, and only in moderate quantities in showery weather. Many beds will have had little moisture since cutting ceased, and these are the beds which will feel the strain next season, especially in light soils resting on gravel. In many gardens the old system of raised beds is still in vogue, and in such seasons as we are passing through, with prolonged heat and drought, these beds are the first to suffer and the most difficult to keep moist. Beds, or what should more properly be termed rows of plants on the flat, are much better off in such seasons, and where room is no object, a yard between the plants will give splendid results. With plants grown thus, irrigation can be carried out. This is, I consider, the best means of promoting a free, strong growth, and no better use can be made of liquid manures than for these plants. Where liquid manure cannot be given, such fertilisers as fish manure, guano, and salt may be given liberally and well washed in. Fish manure is one of the best fertilisers. The proportion in which this food may be used depends upon the state of the soil. I would advise using it twice a month, in preference to strong doses with long intervals between. It is a safe manure when ample moisture is given. Guano is likewise valuable, but though applied in the same way as fish manure, if of the best kind it need be used in smaller quantities. There are other foods, such as soot and other rich fertilisers, that can be used in case animal manures are not procurable. It may be urged that Asparagus is a deep-rooting plant and not readily affected by drought. It certainly roots freely if well sup-

ported, but if neglected its roots soon decay. In the case of light soils, a mulch between the rows in such seasons as this is of great importance, especially with young plants. I have used straw litter for this purpose, and it retains moisture. Young plants in a richly made bed are not in need of liquid like older ones, but they require more frequent supplies of water. Much may be done to support new growths at this season, as if twisted about by winds they cease to form the shoots or crowns for next season, so that it is well to preserve growths till they change colour. Any protection most handy may be employed, such as stakes and twine, or bushes thrust into the soil.

G. WYTHES.

CAULIFLOWERS.

ALTHOUGH the weather during April and May was not favourable for this crop, still, where precautions were taken to have the ground well tilled and in good heart previous to planting, there should not be any difficulty in having fine heads at the present time. I do not remember Broccoli being so good till such a late date. With me Standwell was in the finest possible condition till June 1, on which date there was plenty of Cauliflowers in the open quarters. From seed of Sutton's First Crop that was sown in a box on January 14, and afterwards placed in a cold viney plants large enough to be transferred to the open ground on April 4 were raised. This variety, which is so well adapted for growing in frames, turns in quickly, and being so dwarf and compact may be grown on a warm border between the rows of early Peas, when both crops will come off about the same time. I planted this between the Asparagus beds on April 4. When established, the plants had a dressing of superphosphate of lime, which was washed down to the roots by liberal watering. Sulphate of potash was also applied with very satisfactory results, for on June 1 many of the young plants were ready for Walcheren and some others that were afforded the protection of a cold frame during winter had not then commenced to turn in. It is well known that on hot, dry soils this is one of the most difficult crops to have in perfection during August and the early part of September, for at that period of the year caterpillars are very troublesome, especially to those that had not made much headway, the leaves being often riddled to pieces by them. If Autumn Mammoth be sown very early on a warm border, the plants will usually be large enough for planting towards the latter end of April, so that they have a chance of getting a hold of the soil before the weather is too hot, and if kept supplied with nourishment during the following months will produce some fine heads in August and September, but if allowed to suffer from want of moisture it is seldom they give satisfaction. In gardens that have to be heavily cropped it is often difficult to find room for everything, and where the soil is not of the best quality the produce does not come up to the standard, therefore more room is required to grow a given bulk. Cauliflower is not one of those accommodating crops that will grow anywhere or anyhow, and where it must be had in succession the whole year, the skill of the gardener is called to a sore test for in hot weather the heads bolt quickly and in cold they are a long time turning in. The former of these two may be somewhat overcome by keeping the ground well flooded when the weather is hot, and by growing those kinds that do not turn in quickly. It would be useless to sow such varieties as First Crop in the open ground in April with the hope of cutting in August, as there would be so much difficulty in getting the plants established in a season like the present that the stems would be hard and woody, so that instead of producing a nice crisp heart the plants would button and be useless. Early varieties are very useful in their place, but they should not be grown with a hope of replacing those that have been found to answer better for late use. All

summer vegetables require to be grown quickly if they are to be tender, while those that are required to stand our winters must be grown as hardy as possible, and as the Cauliflower is one of the former, the ground on which it is intended to be grown ought to be specially prepared early in the season by being heavily manured and deeply dug to attain the most satisfactory results. If this is attended to and a proper selection of the varieties be made there ought not with ordinary care to be any difficulty in keeping up a good supply from the time Broccoli is finished till it is ready again the following winter.—H. C. P.

— Last year there appeared in THE GARDEN various notes on the relative merits of Cauliflowers and their time of turning in. I then determined to make a good trial of those varieties which were then thought to be of highest merit, with a view to solving the question of season, as this appears to be the point of most value to the grower at large, and I now give the result of my trial, which only dealt with autumn-sown plants. Seeds of Dwarf Erfurt Mammoth, Early London, The Pearl and Walcheren were sown on a south border on September 4, the seedlings being pricked off into a frame on October 18. Here they all grew well, and were replanted on a south border on March 11 last. There were two buttoned plants, though one or two of the very earliest were comparatively small, but of these I take no account in the following dates, which only cover the period during which each variety could be cut in plenty, stragglers at either end being omitted. I commenced cutting Dwarf Erfurt Mammoth on May 8 and finished on June 14, but I give its season as from May 12 to June 7. It was followed closely by Early London, June 5 to 17; this by The Pearl, June 12 to 20; and this again by Walcheren, June 15 to 30. Small plants from the same sowing were planted in the open garden, and these will remain in cutting for another week, so that, practically speaking, the produce from autumn-sown plants covers a period of two months. Of course this time could have been extended by using Autumn Giant in the same way, but I see no gain by so doing, for the varieties mentioned above, if sown in a cold frame in spring, would turn in in time to bridge the season, and I find them more acceptable at this time of the year. The Chiswick verdict of 1894, in coupling Early London with Walcheren, is one with which I cannot agree, and the difference appears to me to be strongly marked; for besides being earlier than Walcheren, Early London has a dwarfer and more spreading habit, while the contour of the plants shows a decided twist peculiar to the variety. The Pearl has more the appearance of Walcheren, of which it appears to be a well selected and shapely form. Dwarf Erfurt Mammoth—as was pointed out last year by Mr. Wythes—a grand first early variety, very shapely and white; the flavour, too, is most delicate. The only good point, indeed, which it lacks is a capability for giving successive crops; this is a fault it has in common with most early kinds, excepting always that good old standard variety, Walcheren.—J. C. TALLACK.

White Turnips—A later examination of the Turnip trials at Chiswick by the fruit committee revealed the fact that the long, white, tapering variety known there as Half-long White, whilst one of the very earliest to produce useful roots, yet keeps good, crisp and sweet for a long time after the Milans have become woolly. This tapering form promises to be an exceptionally useful hot weather Turnip. Out of a collection that comprised practically all varieties in cultivation, it was certain that some would be quite out of character under hot weather culture. As, however, all the main crop or winter varieties are to be sown again for trial in August, there is every prospect that the natural character of each will be fully developed. Still some strong growers—that is, strong as compared with the Milan or Strap-leaf strains—proved to be of excellent quality under summer cultivation, and three marks have been

awarded to Jersey Lily, Vetch's Red Globe, Sutton's Snowball, Cartell's Silver Ball, Flat Forcing and Green-top Stone. Several of the Oak Leaf and Winkles take titles given rather hard facts, but they may be found of excellent quality in November. There were also several red and purple-skinned varieties, all exceedingly pretty, but otherwise not apparently of much use. These may be found better in quality also in cooler weather. One defect of several varieties, so far as relates to garden culture, is that whilst the roots were of excellent quality now—and that is the primary consideration—yet they have such rank, strong leafage. When grown in fields where ample room is permitted to enable the roots to become large, then it is of little consequence. In gardens where large bulbs are not required very coarse leafage is not helpful to early bulbing. Probably no variety after the first earlies are past better suits garden culture than does the excellent early Snowball.—A. D.

The Celery fly.—An acquaintance of mine recently stated that quassia extract was a remedy for the Celery fly. I presume he meant that if the foliage was wetted with the liquid before any attack was made it would prevent the fly from piercing the leaf and laying the egg. This is feasible, although I think pretty frequent sprinklings would be necessary. When, however, the eggs are laid and the maggot hatches, no insecticide is effectual, as the insect is located between the two tissues and cannot be reached. After many years' experience, I am convinced that, when once affected, nothing can save the plants but careful hand picking. If taken in time, a careful lad will look through several long rows in a day. This pest seems more troublesome in dry summers than in wet ones.—J. C.

A good main crop Pea.—One of the best of the newer Peas I have grown this season is Eureka, a main-crop variety of great merit and with a robust, sturdy habit. It is a grand dry weather variety. This Pea was introduced in 1891. It is a distinct Marrow, and was, I believe, one of Mr. Culverwell's crosses. From its dwarf habit and good cropping qualities it may be classed as a dwarf pea among the midseason or main-crop varieties. The pods are broad, flat, with more than eleven peas in a pod, and of a deep green colour. The height is 3 feet, but this season with me this variety is not more than 2 feet 6 inches high, doubtless owing to the drought. With so many good Peas to select from, there is now no need to grow the tall varieties, as I consider these medium growers more profitable, less affected by drought and mildew, and a great gain near towns where sticks are none too plentiful.—G. W.

Mustard and Cress.—Extra care is necessary in the sowing and treatment of this salad during July, August and September. The sunny borders should be abandoned, as not only is the salad grown in such a position inferior in quality, but it no sooner arrives at the cutting stage than it commences to run to seed. A north border is the best position, and it always pays to fork in a little good loamy soil on the plot allotted to it. Hand-lights also, even at this advanced date, should where available be used, as heavy rains are apt to dash the grit amongst the salad and completely spoil it. When the seed is sown, the tops of the hand-lights should be left on crossways; this, while shielding it from rains, also admits sufficient air to promote a sturdy, juicy growth. It is astonishing how long Mustard and Cress last in good condition on a north border.—J. C.

Tomato Regina.—Last season I had occasion to speak of the exceptional merits of this Tomato, and this season my convictions as to its general usefulness are very much strengthened. I now find it does as well out of doors as under glass, plants put out between the Peach trees on a south wall a month ago having already a nice lot of fruit, which is swelling rapidly. Successive sets of bloom trusses indicate that with fair weather the crop will be both good and long-lasting. Regina is a medium-sized Tomato, very smooth and symmetrical, being produced in

clusters of five or six. To show the high opinion a market grower near here had of it after trying a limited number of plants under glass in 1894, I may state that last summer he grew no less than 600 plants of Regina alone.—J. C.

VEGETABLES AT EARLY SHOWS.

It is surprising how little provision is made for vegetables in the schedules at the early shows held, say, in May and June. Take York, for instance. One would have thought that a society like this would have offered prizes not only for collections of vegetables, but for single dishes also, but such is not the case. True, there are several trade firms who annually offer prizes for vegetables grown from their own seeds, which, of course, means that non-customers are shut out from the competition, which is in consequence generally very limited at this date. Now if the society itself were to include vegetables in their schedule and offer fairly liberal

possible, as it is generally in these that keen competition is seen far more than in collecting, the merits of the different varieties being also seen to advantage. One or two societies I know offer prizes for early forced vegetables at their spring shows, and very often the display of French Beans, Peas, Beans and Tomatoes is most creditable. The method of dishing up vegetables as practised by some exhibitors nowadays is an art of itself, and contrasts strongly with the slovenly practice of laying them roughly on the tables as formerly. For moderately-sized collections, some use wooden trays painted green. These answer very well, but I think vegetables are best displayed on dishes with a groundwork of either green baize or clean white paper. Garnishing large collections of vegetables takes much time and patience, and the growing of first-class produce for the purpose incurs endless forethought and trouble, which too seldom meet with due encouragement in the prize list. It is satisfactory to note that judges are attributing more importance to quality in exhibitors' exhibits than formerly. This is but right, as mere size alone has no just claim to merit.

J. CRAWFORD.



Air and shade: A fruit tree-covered way. (See p. 37.)

prizes, the result would be not only an increased competition, but an increased interest by the public generally, as I have invariably noticed that at early shows where prizes are offered for vegetables much interest is manifested in the exhibits, not only by gardeners, but by the visitors generally. I have often seen the approaches to the vegetable exhibits at such shows as Shrewsbury later in the season completely blocked with visitors. The Royal Horticultural Society has always set a good example by recognising the importance of the vegetable department, and by offering substantial prizes both for collections and single dishes, much enthusiasm having also been shown by the same body in the trials of new sorts at Chiswick.

I think it a good plan at large shows to have two classes for collections and to debar exhibitors competing in the larger one from showing in the smaller one, this arrangement giving men of smaller means a chance. Single dish classes ought always to be as numerous as

so common in vegetables later in the season, and yet no one could assert that products were at all below average table size. Potatoes, Peas, dwarf Beans, Marrows, Tomatoes, Cauliflowers, Cabbages, Onions, Carrots, Turnips seemed to be in most cases selected for medium size, and specially noteworthy was the absence in the many collections, of which there were about twenty, ranging from six to twelve dishes, of any unduly large, the exhibitors having learned that whilst average medium size in dishes is a merit, when one or even two dishes are large and some others are even for the kind relatively small, any collection is materially weakened. It will be well, if throughout the season vegetable exhibitors will bear in mind that very large examples are now getting out of favour.—A. D.

Summer Cauliflowers.—Many complaints of clubbing in Cauliflowers have been heard this season. Doubtless heat and drought have had much to do with this, but it seems equally probable that too little care is exercised in lifting the young plants from the seed bed and in planting out. What may be done in a moist season may

not always be done with impunity in a hot, dry air. Plants are then when fresh put out and not shaded subject to great respiration through the dryness of the air, and in such case it is long before new roots are formed. If it were the rule to prick out young plants into 3-inch pots, stand them in a frame or house, and thus get them rooted are exposed to sunshine and the outer air, transplanting might take place freely enough then and no harm would result. I have seen cases this season where both methods of planting have been adopted—in the first case entire failure even after some growth had been made, but with potted plants the result was admirable. This is not, of course, practice that it would be possible to carry out in relation to autumn Cauliflowers where largely planted, but in this case there is less need for the trouble. The plants may be permitted to become more strongly rooted before lifting; then if taken up carefully, all roots being preserved, be dipped into a thick solution of soap and clay in water with just a little paraffin stirred in, so that the roots become well coated with the compound, then at once carefully dibbled into the soil and well watered, they are pretty safe to get hold soon and grow into strong plants.

Trouble from club may not be common where soils are deeply worked and well manured, because in that case the ground is usually cooler and growth is rapid. It is found most troublesome where soil is relatively poor and not deeply worked. Still there are few gardeners who are not familiar with this feature in Cauliflower culture.—A. D.

Midseason Pea crop.—The Peas sown during March and early in April have been excellent. Unless the ground was deeply dug, also well manured, I fear there will be in thin poor soils a poor return of what may be termed midseason or July Peas, and I am certain the June or late May sowings will be poor indeed. No matter what variety is grown, with such a great heat the roots have not been able to get enough moisture to support them. I place the greatest importance upon effective mulchings for the June supplies. I regret I am unable to write as favourably of what may be termed the third division varieties for late July and autumn supplies. No matter how good the culture, the plants present a sorry appearance, having failed to strike down into the soil like the earlier ones, which had cooler weather, but equally dry. Such a season as this teaches us a lesson. In a thin soil it is useless to sow all kinds. The only successful midseason varieties are those with a strong haulm and exceeding 3 feet in height. In all places I have seen seem to total collapse where the plants were sown thickly and left to chance, and in others, no matter how much watered, it is useless if the roots are not able to get space to push out freely. I notice where the ground has had a mulch of only strawy litter the results are better. I feel sure in a few years many will only give dwarf or medium growers the preference, as in dry weather they are less affected by drought, and in wet weather are more manageable than taller kinds, which frequently grow out of all bounds and do not turn in at the time expected. With such a number of really good dwarf or medium growers to select from, I think the private grower will obtain better crops from the dwarf Marrow section.—S. H. B.

Spinach.—Amongst the vegetables that should be classed as out of date are the common prickly and round-seeded forms of the Dutch or Flanders Spinach, so long grown in gardens as Summer Round and Winter Prickly. These definitions are fond ones of the seedsman, as they have led to the wasteful practice of ordering both forms under the belief that they were distinct and essential to each season, whereas they are but one and the same, producing both smooth and spiny seed. Very superior in productiveness of leafage to this Dutch form is the Viroday, or, as known perhaps better here, Victoria. The leafage of this form very much resembles that of the Dutch, but it is much larger, whilst the plant shows less haste to run to seed. Best of all no doubt is the form so well named Longetander, because it is

far less premature in bolting off to flower in the summer than is any other; it is strong and has very fine leafage, which is of a deep green hue, and is of a stouter nature than that of others. The great advantage derived from the stouter leafage of Longetander is the fact that, apart from its great size and abundance, and also being more easily cleansed from grit, its density furnishes far more satisfactory results when cooked. It is time the cultivation of the Longetander became as universal as that of the Old Dutch has been. We are fast approaching the time when sowings should be made for winter crops, but there is yet opportunity to secure seed ere the season is past. Seed may be sown in drills from 12 inches to 14 inches apart and thinly. When plants, to enable them to grow freely, have to be thinned down to from 6 inches to 8 inches apart in the rows, thick sowing is almost wasteful, but it is giving needless work. The thicker leafage of this fine variety also makes it capable of enduring hard weather during the winter better than does that of the older varieties.—A. D.

AUTUMN CAULIFLOWERS.

All gardeners are aware that it is far more difficult to produce good Cauliflowers during the autumn months than, say, during May, June, and July, many a batch of what were once promising plants becoming a prey to insects, clubbing, or prematurely buttoning. On cool, moist soils and in average seasons Autumn Giant, if well attended to, seldom fails to give satisfaction, but if on hot, shallow ground the foliage even of this robust variety once assumes the bluish tint so well known to Cauliflower growers, the chances are that the heads will develop prematurely and be inferior in quality. Previous to the introduction of this standard variety, old gardeners used to rely on Walcheren for supplying heads in September and October, seed being sown in June and the plants put out on plots cleared of second early Potatoes. With the assistance of liquid manure good heads were cut in September, others continuing to develop through October if protection was given by bending the leaves down over the heads, as although Walcheren is often erroneously catalogued as a Broccoli, it will not stand the least frost, being more tender in that respect than Autumn Giant. Success or otherwise in growing autumn Cauliflowers depends in a great measure on how and where the seed is sown and the treatment the seedlings receive in their earliest stages of growth. Hot sunny borders facing south should be avoided, by far the best place being an east, or even a north, border. The soil should be thoroughly well soaked a day or two before sowing, and the seed-beds covered with mats or bags to prevent undue evaporation and hasten germination. Thin sowing and early and liberal thinning are imperative; indeed, it pays to prick out the seedlings on a well-enriched plot in order that they may be lifted with a good ball of soil when finally transplanted. This should, if possible, be done in dull, showery weather and the plants shaded for a time with evergreen boughs. The plan adopted by many exhibitors of growing their autumn Cauliflowers in shallow trenches is worthy of imitation, even if heads of only dining-room size are required; at any rate where the soil is poor or shallow; plenty of good manure can then be worked in, which if watered occasionally will retain the moisture and prevent the blue colour, attacks by caterpillars and premature buttoning. The enormous heads annually exhibited during September are generally grown in trenches, the leaves being brought together and tied at the extremities before the heads are fully grown in order to preserve their whiteness.

Where variety is needed, Walcheren, Eclipse and Autumn Giant may be grown, these following one another in the order named. Eclipse is a splendid variety for use at this season, but although it has been in commerce for some years now, it does not seem to be very well known. In size it is similar to Walcheren, its habit of growth being very upright and the heads, which on good land are very white and compact, are well protected from the sun by the dense folding leaves. It is very vigorous and stands hot weather well. Autumn Giant, like the majority of Cauliflowers, is apt to come in with a rush, and when this is feared, the best way is to lift the plants with as much ball as possible and lay them in thinly in a shady position. Here the heads will slowly increase in size and last over a long period. For cutting during November and December, when frost may be expected, nothing surpasses the well-known Self-protecting Autumn Broccoli.

J. CRAWFORD.

Sugar Peas.—The British people are so much attached to shelled Peas, and we grow them here in great excellence, that it seems very improbable they will ever largely care for the Sugar Peas, which are so highly favoured on the Continent. In very much the same way we prefer the ordinary green pods of runner and dwarf Beans gathered young and sliced up small out of all knowledge, so that when cooked they are little better than watery flavourless pulp. And yet everyone who has tasted the whole cooked pods of Butter Beans admits that they are not only delicious, but exhibit higher flavour than do sliced green Beans. We cannot cook ordinary shelling Peas in the pods if we would have them, because of the tough parchment-like nature of the inner membrane or skin of the shells. With the Sugar Peas, and they are invariably sweet, the pod is thin and easily broken, the seeds included. One of these Sugar Peas grown at Chiswick for trial, having been sent there by the Messrs. Vilimorin, of Paris, was found by the fruit committee to be of such unusual excellence after being cooked, that it was awarded three marks. The variety is known as the Tall Butter Sugar, an appellation which conveys high grades of goodness. The variety reaches to a height of from 4 feet to 5 feet, produces pods in great abundance, and these, unlike the better-known Sugar Peas, are of ordinary dimensions, or about 3 inches in length, and well filled with Peas. It is but useful when cooking to clip off the stems and points, then serve whole. In this way they constitute an exceedingly pleasant dish. There are many varieties of Sugar Peas, but this seems to be the best. Perhaps some gardeners may be disposed to give it a trial next year as an interesting variety in Peas.—A. D.

Autumn-sown Onions.—I should very much like to learn from anyone who may have sown Ailsa Craig Onion in the autumn to stand the winter outdoors, whether it has proved as hardy as the ordinary Tripoli and other common winter varieties. I was asked this question recently, but had no experience on the subject. All the same, I cannot see why that particular variety should be less hardy than are Italian, Lisbon, or Tripoli varieties, or even the Spanish type, of which we have so many under diverse names and all as hardy as any that have been named. It is indeed rather a matter of surprise that those who grow autumn-sown Onions should adhere to the soft-lobed varieties so commonly grown, and which so soon become hollow after ripening when they may grow good Brown Globes or Spanish forms, and find as result that they get bulbous that will keep so much longer. Of the value of raising plants under glass in the early spring and of planting outdoors in April there is no doubt. It is a practice that is commonly adopted. It is not everyone, however, who can find the

room essential for such purposes in the early spring; hence, doubtless, the inquiry as to the suitability of Ailsa Craig for autumn sowing. I am hoping to be able to test various of the finest of summer Onions in that way this year, and should sow about the last week in August. If sown too early, plants may in the spring bolt off to flower; and if too late, may indifferently stand the winter. I expect on light, warm soil that the time named will be about the best. A sowing of numerous varieties made in the spring has, in spite of the drought, done very well, and plants from each raised, though late, under glass and dibbled out have done very well too. It is remarkable that, in spite of the drought, the maggot should have been so little in evidence; indeed, generally, spring-sown Onions look remarkably well. If the mildew keeps off there should be capital crops of sound Onions in the autumn.—A. D.

Late dwarf Beans.—Those who require Beans in quantity will find a late sowing of dwarf French Beans useful, as often the Scarlet Runners are cut down by frost earlier than one expects, and a few rows of dwarfs on a sheltered border are not touched. To get the best return, deeply-dug land well enriched with manure is necessary. I prefer a dwarf-growing kind such as Syn House or Mohawk, as if the weather is severe, it is an easy matter to protect with mats or canvas when frosty nights occur. I have sown it out and it often happens that late in September or early October we get frosts for a few nights and are free for weeks afterwards. These plants are often too much crowded. If sown too thickly, thinning should be resorted to. With late crops this is important, as the plants, having less daylight with declining days, do not set freely. When crowded the leaves turn yellow and the plants are less sturdy. Given good treatment, ample space and food, I have gathered pods well into November from sowings in July.—W.

MEDIUM HEIGHT PEAS.

ALTHOUGH from a dwarf Pea like American Wonder, usually outdoors not more than 12 inches in height, up to such a variety as Reading Giant, which will grow several feet in height, there is unbroken continuity of heights found in myriads of varieties, it is common practice to class all Peas below 2 feet high as dwarfs, those above up to 4 feet as medium height, and all above that range as tall. One the whole I think there are no more serviceable kinds than those of medium height, of which there are so many in commerce, and which give early, mid-season and late kinds, and are nearly all sturdy growers and free croppers. I have been dealing with a trial of twenty-four varieties of this section in two parts of Surrey this season, and yet two dozen do not constitute perhaps more than one-third of the varieties now catalogued, whilst if we add but a score of the really dwarf varieties and three scores of tall varieties, it will be found that, apart from the new ones constantly coming into commerce, there are at least over 150 offered for sale all of which have fairly good reputations. It need hardly be said that the seedling holds little of actual diversity there is in habit or character of the Pea plant, and a wide range of sameness is inevitable; instead of the twenty-four varieties I have grown just a few seem to have individual character. The work of sifting the wheat from the chaff is thus made very difficult; indeed, it seems impossible when we find that a variety that fails in one place seems to do well in another. Still there are some Peas that seem to be good everywhere, and such varieties may be expected to remain long in cultivation.

In my trial, all sorts having been thinly sown to enable character to be fully displayed and to give the plants a chance very much needed this dry season, especially that watering or mulching was out of the question, I found that the general produce was excellent, especially in the case of the earlier varieties.

A. D.

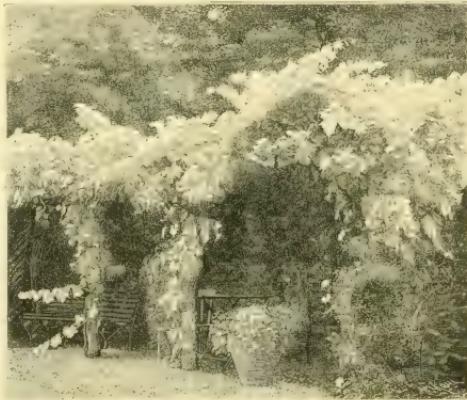
STOVE AND GREENHOUSE.

TREE CARNATIONS.

I SHOULD be very glad if some reader of THE GARDEN would give me a little information as to growing Tree Carnations, from the time the cuttings are struck to the blooming period. I have tried time after time, but always failed. I am always at a loss how to treat them after the first year of blooming.—YOUNG GARDENER.

Those who fail in their attempts to grow greenhouse Tree Carnations often make final success, next to impossible by continuing to take cuttings from their debilitated stock of plants. The best plan is to obtain some fresh healthy cuttings from another source, as, even if those above described strike at all, the process is very slow, and in nine cases out of ten aphis or thrips attack them before they are ready for removal from the propagating frame or handlight and before they will stand fumigation. Some growers prefer to propagate in the autumn, others in the spring, and although I prefer the spring, I think it best, in order to make success more certain, to

it about a fourth part good leaf-mould and silver sand. I say good leaf-mould, as much of the rubbish sold for that article in the neighbourhood of towns does more harm than good, often containing injurious grubs and insects and encouraging disease. Unless it can be guaranteed made from Beech or Oak leaves, it had better be dispensed with and extra sand added. After filling the pots firmly, water with a fine rose and allow them to drain for a few hours. In preparing the cuttings remove a few of the lowermost leaves and cut each through with a sharp knife immediately below a joint, inserting them at once, half a dozen in each pot. After a sprinkle to settle the soil, and plunge all close to the rim. Those who have not a special propagating house, but have an early viney or Peach house, may make up a bed of leaves on the border and introduce a small frame. In bright sunny weather the cuttings may require a spray from the syringe daily, but when dull and sunless they will sometimes not need it for several days together, as the fermenting material supplies a certain amount of atmospheric moisture. A chink of air admitted at night allows the escape of any superfluous moisture, keeping the light shut down by day.



Air and shade: Vine-shaded bower in small garden. (See p. 37.)

put in one batch of cuttings rather late in autumn—say October or November, and a second batch in February. Beginners often make a mistake in choosing the soft, strong terminal shoots, whereas experience teaches that the somewhat stubby side growths strike much more readily, and, as a rule, make better plants. This is especially so with Miss Joliffe, which does not always strike so easily as Alegatiere, Sir Charles Wilson and a few others. Then many batches are ruined by the employment of both too much top and bottom heat, that of a Cucumber or Melon house being too great, at least in spring. In autumn nothing perhaps surpasses a gentle, warm bed of Oak or Beech leaves, and sufficiently large to accommodate a moderately-sized single light frame. If leaves are scarce and stable litter has to be used, one part of it to three of leaves is quite sufficient, and even then coco-nut fibre or sawdust should be placed on the surface of the bed to prevent injury from the escape of steam. The cuttings should be packed in a capital clean, ploughing medium at any time. I find the smaller the pots used for the cuttings, the better, the soil therein not being so liable to become sour through saturation as in large pots. Drainage must be ample. The cuttings root best in a light, loamy soil, passed through a fine sieve, and having added to

If all goes well, the majority will be rooted in three weeks, when more air must be given, and a week later the pots lifted and stood on a shelf tolerably near the glass, but shaded during sunshine. When growing freely, remove them to an intermediate house, give them a light position, and fumigate.

Remove into single pots before the roots become matted, using now the same kind of loam, but rubbed down by the hand instead of sifted, rough sand, or road grit, and leaf-mould being the only addition. Young gardeners often erroneously add farmyard manure, and lose their plants in consequence. In potting keep the collar of the plant rather high than low. By May another shift will be required, a $\frac{3}{4}$ -inch pot being used, and the plants afterwards placed in frames on a hard ash bottom. Take carefully for a bright light, and use water that has been exposed to the sun for a few days previously. Eat on the dry rather than on the wet side in this respect, or the yellows will be sure to appear. When fairly established in the new pots the lights may be removed entirely through the day, but kept on and well tilted up in wet weather. In June the lights may be entirely removed from the frames by night as well, fumigating the plants once more first, and

when at the end of the month or first week in July the plants are shifted into 6-inch pots, in which they will flower, they must be arranged on ash beds in the open, choosing a sheltered situation, with a thin mulch, and frequent examination of the points of the shoots for green fly will be the chief points of culture until the third week in October, when the plants should be housed, elevating them near to the roof glass in a light, airy structure from which frost only is excluded. Coddling is ruinous. If the plants have done well, a little weak liquid manure may be given once or twice a week, but further stimulants are best avoided. Always remember that a clean, healthy growth in the winter is the only guarantee for a batch of good cuttings the next spring. "Young Gardener" complains that he has never been able to do much with the plants the second year, but the fact is that few growers care to bother with two-year-old plants, except in the case of those varieties which make little grass the first, yearling plants being in the end the most profitable and far less liable to sudden collapse than old ones.—J. CRAWFORD.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

JULY 14.

ANOTHER most extensive display was to be seen at this meeting, so much so, in fact, as to create an amount of surprise, taking into consideration the intense heat and drought of the past weeks and the consequent fugitive character of many flowers both under glass and otherwise. It was, in fact, almost a field-day for out-of-door flowers.

Orihids were but few in number, but of these there were some noteworthy kinds to be seen. Fruits from under glass were not plentiful, the best exhibit being a handsome Peach-tree shown by Mr. Hall, Villa Gardens, Regent's Park. These were highly coloured and of fine quality. Hardy fruits were here represented by Messrs. J. Veitch and Sons' Gooseberries and Cherries, both excellent, but the latter particularly so from bush trees. A few Melons also were shown, some of which had travelled badly. A grand lot of vegetables was staged by Mr. Beckett, Aldenham Gardens, Elstree; these were excellent examples of their kind, all the more so considering the season.

Turning to the floral section, however, there was an abundance of exhibits, as the following report will show. Notable amongst these were the Roses in the competing classes; these were shown well for the lateness of the fixture, several of the best known growers competing. Sweet Peas, too, were a feature. It is most gratifying to note the great improvement of late years in this popular annual, good alike for the private garden or the market grower. A few new varieties were shown; the best of these received due recognition at the hands of the floral committee. Carnations were also plentiful, notably the newer kinds, several of which were given awards of merit. Here again it is pleasing to see the improvement in setting up the flowers in jars with their own foliage as contrasted with the old-fashioned florist's idea of paper collars and sundry dressings. As regards both, the visitors were to be seen, the visitors could for themselves form an idea which is the better method. The less one sees of this flower dressing the better, in our opinion. Mixed groups of hardy flowers were staged by a few growers, notably by Mr. T. S. Ware and Mr. Pritchard. Cut shrubs were shown by Messrs. J. Veitch and Sons and Messrs. Cheal and Sons. Examples of Lilies and Calochorti came from Messrs. Wallace, and in their usual excellent style. Some immense examples of double tuberous Begonias came all the way from Cork. These might have been taken for Hollyhocks in several instances. "Toolarge," many would say, but Messrs. Hartland & Son are to be congratulated on their high class culture. The method

of setting up with their own foliage on Moss contrasted most favourably with the Carnations in paper frills and collars. Another and a most noteworthy exhibit was that of the small-leaved and choice forms of Iresia, of which a beautiful group was contributed by Messrs. Cuthbush and Sons. Such groups as this last are both instructive and interesting. Some examples of standard Roses in pots were shown to exemplify the method of budding adopted, viz., by inserting the buds in the old wood instead of in the lateral shoots, as in the old plan. Where the stocks are free (as they should be, and not stunted), this seems to be an advantage. Mr. S. G. Mortlock was the exhibitor.

Orchid Committee.

The following were given awards of merit:—

CATTLEYA MOSSLE BRILLIANT.—A distinct and lovely variety, with broad sepals and petals, deep rose in colour, the petals having a thin streak of purple at the tip; lip beautifully fringed, crimson-purple in front, shading to purplish brown at the base, and lined with yellow in the throat. From Messrs. H. Low and Co.

ZYGOPETALUM GRANDIFLORUM.—Sepals and petals about 4 inches across, green, longitudinally lined and shaded with dark brown; lip white in front, shaded and lined with purple; the basal half yellow, with several raised brown lines. The plant bore a raceme about 7 inches long and carried two flowers. From Sir T. Lawrence.

Botanical certificates were awarded to the following: Catasetum Russellianum, a distinct and pretty species; the spike was from 12 inches to 15 inches long and carried twenty-four flowers; sepals and petals white, veined and lined with green, the lip creamy white, lined and slightly suffused with green (from Sir T. Lawrence); Masdevallia corniculata (infata) yellow on the inside, outside greenish yellow, spotted with purplish brown (from Sir T. Lawrence); Oncidium virgulatum, sepals and petals bright yellow, spotted with dark brown in the basal half; lip bright yellow, with a few spots bordered with brown (from Sir T. Lawrence); Masdevallia Carderi, the flowers small, bell-shaped, white, spotted with purple (from the Hon. W. Rothschild, Tring Park).

Messrs. F. Sander and Co., St. Albans, sent a fine specimen beautifully flowered of Cologne Sanderae. The plants bore six spikes with an average of eight flowers each. The sepals are upwards of 2 inches long, petals rather narrower and shorter, creamy white; lip white in front, yellow in the centre, and lined at the base with bright brown on a white ground. A cultural commendation was awarded. The same exhibitor had two plants of Spathoglottis plicata var. Micholitzii, a distinct and beautiful variety with rose purple sepals and petals; lip rosy purple in front, shading to orange-yellow on a raised ground, spotted with brown at the base. Messrs. H. Low and Co. sent a form of Catleya Mossiae Arnoldiana with two flowers. Sir T. Lawrence sent Catleya Eldorado marginata and C. E. Wallisii, the latter with pure white sepals and petals, lip white, with bright orange-yellow disc. Batemannia Burtii var., sepals brown on a raised surface, shading to greenish white at the base, sepals similar in colour, but with bright maroon-crimson discs at the base; Dendrobium Macarthii with six flowers, Polystachya odorata with two spikes; Epidendrum ciliare, a distinct small-flowered variety with creamy white sepals and petals, lip white, shading to green at the base, were also sent from Burford Lodge. The Hon. Walter Rothschild sent Catleya gigas Shuttleworthi with six flowers on the spike. This is a fine dark form, for which a cultural commendation was awarded. He also sent Catleya Gaskelliana alba with three flowers. The Right Hon. J. Chamberlain, Highbury, Birmingham, sent four cut spikes of Catleya gigas, showing good culture, but not sufficiently distinct compared with others at the meeting to warrant the descriptive names given (vote of thanks). Mr. T. Statter, Stand Hall, Manchester, sent a group of cut Orchids, amongst which were some good

forms of Laelia-Cattleya elegans, the distinct Cattleya Schrederiana, with its rose, almost self-blushing flowers; a form of Cattleya gigas, C. Rex, a fine variety, with four flowers on the spike; several forms of hybrid Cypridiums and a pretty variety of Cypridium leucocodium, which appears to be a natural hybrid between C. bellatulum and C. niveum, the lip pure white, and similar in shape to that of C. niveum. Mr. C. J. Ingram, Elstead, Godalming, sent three plants of Cypridium T. W. Bond and C. Ceres. Mr. W. Thomson, Stone, Stafford, sent nine cut spikes of Cochlioda Noetziiana, showing remarkable culture, the spikes being well developed and the flowers fine in substance, Odontoglossum nebulosum album, and a fine spike with fourteen flowers of O. luteo-purpureum var. sceptrum. Mr. E. Cohen, Hall Road, St. John's Wood, sent Catleya Gaskelliana Mrs. E. Cohen, a pale rose-tinted form, with a few spots of purple on the lip. Mr. Norman Cookson sent out spikes of Phaius Humboldtii and a large Cypridium Youngianum. Mr. C. J. Lucas sent six forms of Catleya gigas remarkable for colour, and from Mr. Young, Liverpool, came Cypridium Stonei album, a pale form, and C. Harrisianum.

Floral Committee.

First-class certificates were given to the following:—

LILIUM CONCOLOR (known also under the name of L. sinicum).—Not a new plant, but none the less welcome and interesting by reason of its miniature growth, slender stems, and small flowers, which are bright orange-scarlet in colour. A small plant in a pot as well as cut examples were shown, but when planted out it grows taller than the pot specimen. It was introduced from China as long back as 1806. From Messrs. R. Wallace and Co., Colchester.

DIDYMOCARPUS MALAYANUS.—An extremely pretty and very dwarf gesneriaceous plant, its specific name denoting its habitat. The flowers are of a soft primrose-yellow with lighter centres, disposed in peduncles of three to five and semi-drooping; the foliage is light green, being darker towards the centre, and the flowers are distinctly pretty plant in a genus wherein yellow flowers are uncommon. From Messrs. J. Veitch and Sons.

CHLLETTIA CAECAEENSIS.—A distinctly valuable shrub with pure white flowers produced in branching spikes; the individual blooms are small, but their purity and profusion make it a most effective plant. Should it be quite hardy, which, we believe, it has so proved to be at Coombe Wood, it will be an acquisition. From Messrs. J. Veitch and Sons.

ADIANTEA BESONIANUM.—Beyond doubt the best and most distinct Adiantum introduced for some years. It comes from Trinidad, the home of A. Farleyense, having been sent from the same district. In its pinnae it shows affinity with A. scutatum, but the fronds are more dense and distinct and of a darker green colour. It is to A. scutatum what A. Pacottii is to A. cuneatum, and it should prove a valuable decorative Fern in any collection. From Mr. James O'Brien, Harrow-on-the-Hill.

Awards of merit were given to—

CARNATION JIM SMYTH.—A border variety of good habit and free-flowering, the colour an intensely deep scarlet and the flowers full. From Mr. H. G. Smyth, Drury Lane, W.C.

CARNATION VOLTAIRE.—One of the yellow ground varieties, the ground colour in this case of a pale straw tint edged and flaked with bright pink, very large and full, not disposed to burst. From Mr. Jas. Douglas and Mr. Martin Smith.

CARNATION DICK DONOVAN.—A splendid white variety of unusual size and vigour; the flowers are well formed and full, the petals being slightly imbricated, a non-splitter also. From Mr. Martin Smith.

CARNATION MRS. MCRAE.—A bright scarlet with well-formed flowers, very full, a non-burster, and quite distinct in its colour. From Mr. Martin Smith.

CARNATION BOREAS.—A deep crimson self not unlike Uriah Pike in colour, the flowers of medium size and good form. From Mr. Martin Smith.

CARNATION GOLDEN EAGLE.—A yellow ground of a bright primrose tint, edged with rose pink, a grand variety, but slightly disposed to burst its pods. From Mr. Martin Smith.

CARNATION BISHOP'S BRIDE.—A soft blush-pink, probably a fugitive colour unless shaded, very distinct and beautiful. From Mr. Martin Smith.

CARNATION ALICE MILLS.—A yellow ground variety of a deep rich shade, edged and flaked with rose crimson, an extra fine variety and one not disposed to burst. From Mr. E. C. Harpin.

CARNATION PRIMROSE LEMON.—Of the same section as the last, the primrose-yellow ground being flaked with purple and rose yellow, distinct and fine. From Mr. Chas. Turner.

CARNATION MAY QUEEN.—Of a similar ground colour to the foregoing, but edged in this instance with rose pink and slate colour. From Mr. Chas. Turner.

PICOTTE CLIO.—The ground colour of which is pure white, the petals being broadly margined with rose pink and of fine rounded form. From Mr. Chas. Turner.

ROSE (TA) EMPRESS ALEXANDRA OF RUSSIA.—A very distinct variety of somewhat similar colour to that seen at times in the centre of Jean Ducher, but in this instance extended to the outer petals. From Messrs. W. Paul and Son.

ROSE (TA) PRINCESS DOROTHIE.—A very deep velvety-crimson with the centre rather paler. By its appearance this variety should prove an acquisition for masses, being very distinct and of medium size. From Messrs. W. Paul and Son.

SWEET PEA PRINCE EDWARD.—York.—A distinct and showy variety, a bright magenta with salmon-pink standards, a good combination of colours. From Mr. Eckford, Wem, Salop.

SWEET PEA LADY GRISEL HAMILTON.—In the way of that well-known variety Countess of Radnor, but paler in every way, a very soft tint of colour, a pale lavender shade. From Mr. Eckford.

SWEET PEA QUEEN VICTORIA.—Darker in colour than Mrs. Eckford, a delicate tint of yellow or primrose, very beautiful. From Mr. Eckford.

GLOXINIA MRS. F. J. EDRIDGE.—An intensely deep purple, almost self-coloured, very striking, and of good habit. From Messrs. J. Laing and Sons.

GAILLARDIA MRS. SAGE.—A very notable variety by reason of its fine form, the petals overlapping, thus giving a round flower, the colour bright golden yellow with dark orange base. From Mr. Sage, Han House, Petersham.

STREPTOCARPUS FULCHELLUS.—The result of intercrossing *S. Wendlandii* and *S. hybrida*, thus giving more vigour and larger trusses, the colour various. From Messrs. Veitch and Sons.

CANNA ATRORE.—A rich dark orange tint, shaded with scarlet and having broad petals, a bold and showy variety. From Messrs. Cannell and Sons.

CANNA AMI JULES CHRISTEN.—A salmon-pink self, with very large flowers and stout growth. From Messrs. Cannell and Sons.

Hardy flowers and Roses formed the bulk of the exhibits before this committee, and a very brilliant and attractive show was the result. A large and very beautiful collection of hardy herbaceous flowers was put up by Mr. Prichard, of Christchurch, the splendid condition and fine size of all the blooms being remarkable. The following were most conspicuous—*Gaillardia maxima*, brilliantly coloured and of huge size; *Platycodon Marietta*, with its rich, dark blue bells; *Chionodoxa*, little *Eriogonum philadelphicum*; a splendid bunch of *Coreopsis lanceolata*; *Potentilla Hopwoodiana*, a lovely pink and white variety; *Centaura rhenana* and some beautiful *Gallegaea* and *Phloxes* (*silver Flora* medal). A very beautiful and interesting group of Lilies and *Calochorti* came from Messrs. Wallace, Colchester, and included a fine lot of *L. longi-*

florum giganteum, the vivid scarlet *L. chalcedonicum*, the pretty buff-coloured *L. exceleum*, a good form of *L. superbum*, and *L. Martagon* damaticum. Of the *Calochorti*, the following were good: *C. Plummerae*, a well-formed dull lime flower; *C. splendens*, a very delicate mauve; *C. citrinus*, a clear lemon-yellow; *C. roseus*, white, with deep rose markings; and *C. oculatus*, a creamy white, marked with primrose and chocolate (*silver Banksian* medal). From Mr. T. S. Ware, Tottenham, came a very delightful collection of Carnations effectively staged in bunches, with a groundwork of *Gypsophila*. A pretty variety is *Raby*, a bright pink with finely serrated edges. Mrs. C. Daniels, a pale blush white, is of good form. Other notable examples were, the old Crimson Clove with its welcome fragrance, Miss Minnie Clark, yellow, striped with pink; *Gloire de Nancy*, a good white; *Queen of Beddoes*, a shapely rose scarlet; *Homer*, nice purple; the well-known *Germanica*, and *Duchess of Fife*, a delicate pale pink (*silver Flora* medal). A pretty group of cut shrubs, mostly *Panthea*, *Carmona*, &c., was staged by Messrs. Chant and Sons, Crawley. Among the shrubs were some very graceful and well-coloured specimens, including *Acer Schreberi*, with richly tinted bronze foliage; *Sambucus plumosa*, sarrafolia, the beautiful *Acer Negundo* variegatum and *A. Vieci* laciniatum, a pretty bunch of the scarlet-fruited Elder, and *Ulmus Damascena* aurea. The Carnations were prettily arranged in threes, and included *Ray Castle*, *Hunting Pink*, *Cassandra*, *Rhodora*, and the old Crimson Clove. A box of very early *Cactus Dahlias* was noteworthy, and contained some good flowers, among them Mrs. Turner, *Fusilier*, Mrs. Wilson Noble, *Leonora*, and *Matchless* (*silver Banksian* medal). A very pretty exhibit was a collection of Sweet Peas from Mr. F. G. Foster, Havant, Hants. The varieties were nicely staged in bunches and interspersed with small ferns. Some of the best were *Celestial*, a soft light blue; *Her Majesty*, light pink, with deeper coloured vexillum; *Oddy*, a mottled pink; *Princess May*, a very good light blue; *Ignea*, a vivid crimson; *Queen of England*, pure white; and *Boreatona*, a rich velvety crimson (*bronze Banksian*). Sweet Peas were also shown by Messrs. Veitch and Sons, and were in this case mixed with *Gypsophila* in the arrangement. Good varieties were *Carmen Sylvia*, a pretty mix of blushed pink; *Duchess of York*, bluish white; *Impala*, a pale Juncaria white striped with blue; *Royal Rose*, *London Queen*, and *Blanche Burpee*. All the bunches were in excellent condition and, considering the season, the flowers were of good size (*bronze Banksian* medal). Messrs. Veitch and Sons also sent a group of cut hardy shrubs and some Water Lilies. Among the former were *Sambucus racemosa*, very thickly berried; *Cornus macrophylla*, *Clethra canescens*, with long, graceful racemes of flowers, very sweetly scented; *Thuja gigantea aurea* variegata, *Clematis cerulea odorata*, a dark and somewhat ineffective flower; and *Pterocarya caucasica*, with its curious flower sprays. The Water Lilies, which included several of the new varieties sent out by M. Latour-Marliac, were in poor condition and very small. From Messrs. Veitch came also a basket of *Begonia carminata*, a pinkish carmine variety of great beauty, which was certificated last year, and a quantity of a new race of *Streptocarpus* (*S. pulchellus*) obtained by crossing Veitch's hybrids with *S. Wendlandii*. The new form has delicate flowers, growing on much longer stalks than the old ones and bearing fifteen or eighteen blooms on a spike. From Messrs. Hartland and Son, Cork, came half a dozen boxes of cut double tuberous Begonias, all fine large flowers, well coloured and scented (*silver Flora* medal). Messrs. S. Rogers and Sons, Peterborough, sent some good examples of a pretty new *Picotee* Border Queen, pure white, edged with crimson, a neat, well-formed, and fairly full flower. A few bunches of remarkably fine Sweet Peas came from Mr. Henry Eckford, Shropshire. The best were *Countess of Powis*, a beautiful brilliant pink bloom, very

large; *Lady Grisel Hamilton*, a lovely pale blue; *Salopian*, deep crimson; and *Prince Edward*, of York, a shaded pink. A fine lot of Carnations of great size and perfect form came from Mr. Martin Smith, Hayes. Every variety was worthy of special mention, but we will be content to note, besides those referred to above, *Golden Eagle*; *Princess Maud*, a fine blush-white; *Begonian*, rich dark crimson; *Mrs. Buchanan*, a fine terra-cotta; and *Blushing Bride*, a nice pink. Mr. Jas. Douglas also showed a collection of cut Carnations, including many many varieties. Another fine collection of the popular flowers came from Mr. Chas. Turner of Shough, and included good examples of *Clio*, white, with broad edge of scarlet; *Primrose*, a large pale yellow, streaked with crimson; *May Queen*, lemon-yellow and pink; *Knight Errant*, a finely-formed rose scarlet; and *The Gift*, yellow, edged with scarlet.

A small, but very pretty group of Cannas was staged by Messrs. Cannell and Sons. The trusses were bearing a great profusion of very large flowers in good condition and well coloured. Good varieties were *Salmon Queen*, a very fine self; *Aurore*, *Queen Charlotte*, *Mme. Crozy*, and *Colibri*, pale yellow with crimson throat. From Messrs. Cutbush and Son came a very extensive and excellent collection of Ivies, comprising some thirty-five varieties of these delightful climbers, and including splendid plants of *Hedera maculata*, *H. himalaica*, *H. foliis variegatis*, *H. macrophylla* variegata, *H. canariensis aurea*, *H. elegansissima*, *H. chrysophylla*, *H. digitata aurea*, and *palmita aurea* (*silver-gilt Flora* medal). Mr. C. Dymott, Southampton, sent a batch of a new *Pelargonium*, *Harry Dymott*, a dwarf-growing canary, with pretty white flowers marked with crimson.

Rose Show

In the Rose show the exhibits were tolerably numerous and very good. For twenty-four single trusses, distinct, the first prize went to Mr. T. B. Haywood, of Reigate, for a nice exhibit with good blooms of *Caroline Testout*, *Mme. Rady*, *Eclair*, *Etienne Levet*, *Duc de Rohan*, *Her Majesty*, and *Pride of Waltham*. Mr. C. J. Graham, *Leatherhead*, was a good second. For twenty-four singles, Mr. Geo. Mount of Canterbury was first with finely-formed blooms of *Duchess of Bedford*, *Eugene Verdiel*, *Ulrich Brunner*, *Duke of Edinburgh*, *Gustave Pigeauan*, *Reynold Hole*, *Eclair*, and *Mrs. John Laing*. Messrs. Paul and Son, Cheshunt, were justly awarded an equal first. Their box contained fine examples of *Mme. Verdiel*, *Reynold Hole*, *Ulrich Brunner*, *Duc de Rohan*, *Black Prince*, *Her Majesty*, *Paul Neron* and *Duke of Albany*. For twelve distinct singles, Rev. W. H. Jackson, of Bedford, obtained the first prize with a very even exhibit, comprising *Capt. Christy*, *Earl of Dufferin*, *E. de Lesseps*, *Duke of Connaught* and *Star of Waltham*. Mr. Geo. Mount was again chief winner for twelve single trusses, showing a fine collection. Among the best were *Duchess of Bedford*, *Ulrich Brunner*, *Xavier Olibo*, *Mme. Eugene Verdiel*, *A. K. Williams* and *Mrs. John Laing*. Mr. John Bateman, Archway Road, was first for six singles, showing Duke of Wellington, *A. K. Williams* and *Mme. E. Verdiel* in good form. The second went to Rev. A. Foster, *Mellar*, Ipswich. For six singles of any Rose, Mr. Rivers Langton, Hendon, was first with *La France*, and the Rev. W. H. Jackson second with *Duke of Connaught*. For twelve distinct trebles, Mr. Geo. Mount was first, showing fine blooms of *Marie Baumann*, *A. K. Williams*, *Caroline Testout*, *Mme. E. Verdiel*, *Ulrich Brunner*, *La France* and *Xavier Olibo*. Messrs. Paul and Son, Cheshunt, were second, *Her Majesty*, *Duke of Albany*, *Mme. Prosper Lauzier*, *Mme. Rady* and *Duke of Connaught*, being the best. For twelve singles of one variety, Mr. Geo. Mount was first with *Mme. John Laing*, and the second went to Messrs. Paul, Cheshunt, for the same variety. Mr. O. G. Orpen was deservedly first for twenty-four single Tees, showing good blooms of *Corinna*, *Ernest Metz*, *Maman Cochet*, *Mme. Hoste* and *Catherine Mermet*. Rev.

A. Foster-Melliar was second. For twelve single Teas, the first went to Mr. Allen Chandler, Haslemere. Mr. R. E. West, Reigate, was first for six singles, staging a neat exhibit of shapely blooms. For six singles of any Rose, the first went to Mr. O. G. Orpen for Maman Cochet, the second to Rev. W. H. Jackson for Innocente Pirola. Messrs. D. Prior and Son were first for twenty-four distinct singles, showing Jean Ducher, Niphétois, Comtesse de Nadillac, Maman Cochet, Maria Van Houste and Souvenir d'un Ami. Messrs. Paul and Son, Cheshunt, were second. Messrs. D. Prior and Son obtained the first for twelve distinct trebles with Ernest Metz, Carol Kuster, Innocente Pirola, Maria Van Houste, The Spirit, Maman Cochet and Niphotte. The second went to Messrs. Paul and Son, Cheshunt. Messrs. Paul and Son, Cheshunt, were first also for twelve singles, showing Innocente Pirola, Messrs. D. Prior and Son being second with Maman Cochet.

Messrs. W. Rumsey, of Waltham Cross, staged a large collection of cut Roses, showing singles, doubles, and a very pretty box of buds for button-hole work; also a box of a new Rose, Mrs. Rumsey, a pretty, but rather loose pink bloom of good shape (silver Banksian medal). Of great interest was a group of new Roses from Messrs. Paul and Son, Waltham Cross. Many very charming novelties were shown, including Enchanteuse, a delicately tinted Tea; Empress Alexandra of Russia, a rich mixture of rose colour and apricot; François Dubreuil, a fine shape crimson with small flowers, and Sylph, a soft creamy pink.

Fruit Committee.

The exhibits before this committee included very fine hardy fruit and excellent vegetables. Melons, though shown in quantity, were not remarkable for high flavour. A few early Pears were staged.

A first-class certificate was awarded to

STRAWBERRY VEITCH'S PECTINAT.—Fruite of this variety were sent to Chiswick, and it was considered to be a very fine addition to the mid-season fruits. It is a seedling from British Queen and Waterloo, possessing the good qualities of the former, and being less dark than Waterloo. It is a firm fruit of great excellence. From Messrs. Veitch and Sons, Royal Exotic Nurseries, Chelsea.

Awards of merit were given to

MELON EFFINGHAM.—This is a cross between Hero of Lockinge and Wm. Tillyer. It is a white-fleshed large fruit, very juicy and sweet. From Mr. Alderman, The Gardens, Effingham House, Dorking.

MELON BARKHAM SCARLET.—A scarlet-fleshed fruit and of good flavour. From Mr. Barkham, Longford House Garden, Ryde, Isle of Wight.

From Messrs. Veitch, Chelsea, came a fine collection of hardy fruits, consisting of twenty-four varieties of Cherries grown on pyramid trees in the open ground, some fourteen varieties of Black, Red, and White Currants, and twenty-six of Gooseberries, with Raspberries and early Pears, the whole forming an interesting exhibit. The Bigarreau Napoleon, Géant de Hesdelfenau, Emperor Francis, May Duke, Reine Hortense, and Empress Eugénie Cherries were very fine. Doyenné d'Eté and Citron des Carmes Pears were staged in good condition, and among the Gooseberries the best reds were Lancashire Lad, Highlander, and Forester, the best yellows being Early Sulphur, Golden Drop, and Gipsy Queen. Very fine also were Green Gascoigne, Fearless, and Keepsake. The best white kinds were Mitre, Bright Venus, and the true old Forcupine, noted for their superb flavour. La Versaillaise and Warner's Grace Red Currants, Lee's Prolific Black and White Dutch were also excellent (silver Knightian medal). Mr. E. Beckett, Aldenham House Gardens, Elstree, staged a very fine collection of vegetables, and, considering the season, the specimens were very good. Cauliflowers were past their best and a little large, the varieties being Walcheren and Veitch's Autumn Giant. The Potatoes Sharpe's Victor and Veitch's Ash-

leaf were beautiful dishes. Onions of the White and Red Leviathan type were shown in quantity. Tomatoes were excellent, the Pollegate and Perfect being staged. Carrots Sutton's Gem and New Red were very fine. Peas were represented by Autocrat and Duke of Albany. The Marrows were not coarse, as is frequently seen. Magnum Bonum dwarf Bean, Globe Beetroot, and Victory Cucumber were also included (silver-gilt Banksian medal). The Messrs. Johnson, Boston, Lincolnshire, staged some fifty dishes of Peas, and though many were past, doubtless owing to drought, it was an interesting exhibit, the varieties being a great advance as regards size on older kinds. Plants of Boston Unrivalled, given an airing at Chiswick, were staged, this was propounding a new. There were fine seed pods of The Queen, Sutton's Matchless, Dwarf Defiance, Critic, Daisy, Veitch's Perfection, Boston Hero, Duke of York, Consummate, and Windsor Castle (silver Banksian medal). Mr. Abbot, South Villa, Regent's Park, staged two boxes of Peaches, very fine fruits and well coloured, Diamond, Mr. Hogg, and Royal George, being the varieties (silver Banksian medal). Melons were shown by Mr. O. Thomas, The Royal Garden, Frogmore; Mr. Wythes, Syon House; Mr. Wilson, Erdige Castle; Mr. Bishop, Bury St. Edmunds, and others. Tomatoes were staged by the last named exhibitor, by Mr. Palmer, Andover, and Mr. Craven, Allerton Priory, Liverpool. A seedling Cucumber named Palmer's Graceful came from Mr. Palmer, Andover. A new Tomato named Brockhampton King was sent by Mr. Foster, Havant. Mr. Carmichael, Pitt Street, Edinburgh, sent four new seedling Strawberries, Prince and Princess of Wales, Queen of Denmark, and Wm. Carmichael. These are the result of crosses between Frogmore Late Pine, British Queen, and Waterloo. The committee requested that they be sent to Chiswick for trial.

The report of the committee which met at Chiswick on June 29 was passed, and awards of merit given to the following:—

PEA PRIZEWINNER.—A very fine dwarf Marrow Pea, height 2 feet to 3 feet, large curved pods beautifully covered with bloom, the Peas of delicious flavour. From Messrs. Sutton and Sons, Reading.

PEA EUREKA.—A 3-foot variety with large, well-filled pods. It is a splendid dry weather variety with true Marrow flavour, very robust, free of mildew and very prolific. From Messrs. Sutton and Sons.

PEA MICHAELMAS.—Recommended as one of the best late Peas. It is 2 feet to 3 feet high, of a bushy growth, and the Peas of good flavour. From Messrs. Carter, High Holborn, W.C.

PEA HERCULIS TROWBRIDGE.—A very fine variety, well suited for colour and flavour; height 4 feet, and valuable in a dry season. Mr. Stokes.

PEA BOSTON UNRIVALLED.—A very fine Marrow variety, 3 feet to 4 feet high, and an immense cropper, a fine mid-season variety. From Messrs. Johnson, Boston.

PEA LORD GRANGE.—A Marrow 3 feet to 4 feet high, very free podder and of very good quality. Mr. Harrison.

PEA NE PLUS ULTRA.—A very fine type of a well-known late variety, tall, with deep green pods, still one of the best as regards crop and quality, and, as growing at Chiswick, a very fine stock.

PEA LORD MAYOR.—A 5-foot variety with very fine pods, well packed with Peas of superior flavour; a good late variety. Nutting and Sons.

PEA THE GLADSTONE.—A dwarf variety, curved pods well filled with Peas of excellent quality. Mr. Holmes.

PEA VILMORIN'S TALL BUTTER SUGAR.—A very prolific variety, large fleshy pods, with an absence of tough skin. This is a fine addition to this class of Pea. From Messrs. Vilmorin, Paris.

TURNIP JERSEY LILY.—A very fine type of summer Turnip, globe-shaped, pure white with solid flesh; an excellent dry weather variety noted for its sweetness. From Messrs. Carter.

TURNIP EARLY SNOWBALL.—A very fine type, perfect in shape, with small top, flesh very solid and pure white. From Messrs. Sutton.

TURNIP RED GLOBE.—A very handsome sort, excellent for dry seasons and late sowing. From Messrs. Veitch, Chelsea.

TURNIP CATTELL'S SILVER BELL.—An excellent variety both as regards flavour and shape. Messrs. Dobbins and Co.

TURNIP FLAT FORCING.—A variety after Early Milan, of good quality and colour. From Mr. Heinemann.

The lecture on "New Roses" by the Rev. J. H. Pemberton was well attended. It was read by the assistant secretary. The lecturer went into the merits of new Roses raised within the last seven years only. He stated there had been a great advance in Rose culture, and of course with so many raising new varieties many must be inferior. He gave the standard required by the National Rose Society for new Roses, and noted the great improvement since 1882 in the Hybrid Tea Roses, Mr. Bonnett at that period doing much to improve this class of flower. He considered Roses of the Grandiflora type excellent. We had room for Roses of this combined form with confidence. In naming a few of what he considered the best Roses raised during the past seven years he would be obliged to omit many which rosarians would think worth including. He stated there was an opening for new varieties if raisers would pay more attention to fragrance. He did not think mere size of bloom should be the main point. The chairman invited discussion and touched upon several points in Mr. Pemberton's notes. Sir A. Arbuthnot thought the N.R.S. should recognize the merits of small Roses. He considered fragrance and shape deserving of more notice, and named several Roses of great merit the N.R.S. did not admit as show flowers. Some of them were very beautiful. A hearty vote of thanks was given for the paper, several gentlemen having taken part in the discussion.

NOTES OF THE WEEK.

Phloxes.—The present time is not favourable to these. In the moist recesses of the bog or near a running stream, Phloxes, like the Astilbes, are much more at home than in the ordinary border where water cannot be given them.

The Orange Silkweed (*Asclepias tuberosa*).—The dry season seems to have suited *Asclepias tuberosa*, as it is finer than usual at Oakham. I send you a specimen, and a seedling *Lycoris chalcedonica*, the pale colour of which looks well with the scarlet form.—GEORGE F. WILSON, *Heatherbank, Weybridge*.

Campanula carpatica.—For some days this has been flowering abundantly with other members of this genus, and its pale blue flowers in a strong tuft are very pretty. Its white variety is also a good plant, both growing about 15 inches high, and forming dense tufts of growth that perish each year.

Magnolia macrophylla grows splendidly at Aix-les-Bains, in Savoy. They call it there arboricole. The blossoms, with the magnificent leaves, are sold in the market at 3d. each. They are beautiful in a large vase. But it has no scent, and perhaps *M. grandiflora* when a branch of it is cut, as is commonly done at Aix, is the more charming of the two.—B. MARLEY.

A double Sweet Pea.—We send herewith some blossoms of a Sweet Pea which we are sure will admit are a good step towards a double flower. You will observe that the standards are produced in duplicates and sometimes triplicate, and this feature makes the blossom far more attractive than has hitherto been the case when only one has appeared.—JAMES CARTER & CO.

Potentillas are now gay with a multitude of their variously coloured flowers, and among these

the clear yellow and golden varieties come out conspicuously. Particularly good is *Vase d'Or*. The mahogany coloured and gold and scarlet are more numerous, but all very showy and alike serviceable in the rock garden or the border, and, given a good depth of rich soil, very free flowering.

Lilium Lowi.—There are several plants of this now in flower in No. 7 greenhouse at Kew. The plants in question are each about 2 feet high and carry one or more of the flowers, which are distinct from those of all other members of this genus. Externally the flowers are white and flushed with green and chocolate, and internally are distinctly spotted with crimson. In form the flowers are distinctly bell-shaped.

Gomphrena sempervirens.—This is one of the most attractive of the Gomphrena in flower at the present time. The plant is well suited to cool and rather moist spots in the rock garden, thriving well in gritty loam, or equally so in a mixture of peat, leaf-soil, and loam. The clear azure-blue flowers appear in a terminal cluster on a stem a foot or more high, with a disposition to a somewhat decumbent habit when left to itself.

Eryngium alpinum.—Just now there is a very handsome group of this in the rock garden at Kew, the great heat of the year evidently suiting the plant to a nicely, and day by day the involucres, as also the stems, are deepening in colour. The latter are of a beautiful blue tint peculiar to the genus and are very striking. Very interesting also is the way the bees throug the plants in quest of food.

Begonia Crimson Gem.—A noteworthy kind because of its dwarf stature and freedom of flowering. It is little more than 9 inches high even when planted out, and therefore a serviceable plant in many bedding arrangements in the garden. The bronzy crimson hue of its foliage is almost as welcome and attractive as its pretty masses of flowers. A pair of beds filled with this near No. 4 greenhouse at Kew are now very beautiful.

Lonicera sempervirens minor.—This excellent climber is too seldom seen in the cool greenhouse, a place eminently suited to its welfare, and also its free-flowering. Though quite hardy in situations not too much exposed, it should be more frequently seen in the greenhouse. Under cultivation of this kind the plant seldom fails to satisfy, but the plants in the open are in many instances this year in failure, through the blight which has been so prevalent.

Lilium pardalinum.—This handsome species is now fine in flower, the stems ranging from 7 feet to 9 feet high, and even more than this where the bulbs are in a raised heat bed and well established. With shade and continuous root moisture this is indeed a fine Lily, and the bright orange flowers, which are freely spotted with dark spots, make a telling display. This is a Lily that any may grow. There is much variety of form and colour, though perhaps the type is still among the best that all.

Nierembergia rivularis.—A low-growing plant of creeping habit, that forms quite a carpet of its small leaves, that are again finely covered with large white blossoms. The plant is always best in very moist positions, though it certainly happens in winter that it perishes if frost is very severe. Some plants that I planted in the drier parts of the bog were very satisfactory, spreading out into large patches nearly 2 feet across and flowering freely. Many of the creeping roots got beneath the stones, and in this way were saved from the severe winter. The plant makes free growth in any moist soil.—E.

Gladiolus Leminei.—This is now flowering gaily in the mixed border, where it quickly succeeds such kinds as *G. insignis*, *Colvillei*, *albus*, and others of the harder race of these beautiful and useful flowers. Indeed, in the large border of mixed things there should always be included, as there are many varieties that are quaint.

Flowering early, too, is a strong point, favouring a free use of them. If planted as permanent subjects it will be best to plant quite 6 inches deep at

first, and with a good depth of soil below they soon form an attractive group.

Abutonium Golden Fleece.—A very showy member of this free-flowering race of greenhouse shrubs, that are amenable to a variety of uses both in the garden and greenhouse. Plants that are trained in the greenhouse and become established, flower quite freely, and the large blossoms are then most attractive. Smaller plants in pots, if plunged or in other ways restricted at the roots, flower quite freely in the open in vases or beds, while in sub-tropical arrangements such things may always be used with good results.

A fine Tansy-leaved Thorn.—Some years ago a question was asked in THE GARDEN as to the size of the largest trees of Tansy-leaved Thorn in Britain. The tree here was considered the largest in Britain. The height is 36 feet diameter, 37 feet; height of stem, 5 feet 9 inches; and girth at 2 feet from the ground, 6 feet. The tree in question stands at the entrance of the favourite walk of the late Lord Byron and fruits freely, the fruit, about the size of a small Crab Apple and showy, being of a yellow-orange colour.—R. DRAFER, Seaford Hall Gardens.

Carnation Ruby Castle.—Among good and free-flowering border kinds this is perhaps one of the most useful and pleasing. It is of such a free growth, so very hardy and enduring that no wonder it is among the most popular kinds that are grown. It is not a show flower because of its cut edge, though it is ready to grow well in dozens of the more formal kinds, by reason of the pleasing rose-pink shade of colour and its freedom of blooming. Some large unlayered clumps are producing wondrous masses of flowers, the latter fully equal to those of last year's layer.

Gypsophila paniculata.—The elegant sprays of blossom produced by this plant are largely grown at Claremont for cutting where it is deemed of much worth. Some sprays of it arranged with Ruby Castle Carnation, Gaillardia, Coreopsis lanceolata, Old Crimson Clove, together with a spray of Asparagus plumosus, in some vase before us make a very pleasing arrangement at once elegant and graceful-looking. It should be noted that the older stems of the plant do not take the water and quickly perish, while the younger twigs take it more readily. The plant is easily raised from seed, and soon forms quite large bushes if planted in good ground.

Lathyrus latifolius albus.—Few border subjects can surpass the best forms of this old-fashioned perennial Pea, whether from a decorative point of view or for cutting. The true plant has blossoms that are both pure and very substantial, the flowers being produced in large sprays that are most useful for vase decoration. Both this and the rose-coloured form are specially adapted for training or training to cover sides of similar places. We are reminded of a large railway embankment that each year is glorified with the flowers of the rose-coloured variety. In this place it rambles at will and flowers with the greatest profusion for a considerable time.

The Flame Flower, in Sussex.—Enclosed please find one "trail" of *Tropaeolum speciosissimum* 3 feet long. The place where I cut it out is the garden of Mr. Balchin's house, and I could cut a dozen shoots at the present time. It is over 8 feet high and very full of flower; it grows very strong. I thought it might interest some of your readers to know that it will grow in the south. I find it likes plenty of moisture. I will send you a spike of *Crinum*, which is very sweet scented. *Crinums* are not so much grown as they ought to be. I have also had *Tropaeolum polyphyllum* on the south front of the house full of flower and quite 4 feet high.—W. RICHARDSON, Hassocks Nurseries, Sussex.

Tulip Tree (*Liriodendron tulipifera*).—We have growing here what I should consider a fine specimen of this tree. For the last three weeks it has been in full bloom, and up till now (July 6) there is a fine show of blossoms. The tree is 11 feet 6 inches in diameter at 3 feet from the ground.

There is a clear stem of 15 feet on one side, and on the side of the tree facing the south are five large limbs, the bottom one about 6 feet from the ground, and the other four at distances from 3 feet to 4 feet; the height is just over 60 feet. I have not been able to find the age of this tree. It is in the most robust health, and makes strong healthy growth annually.—WM. CHRISTISON, Kidbrooke Park, Forest Row, Sussex.

Fuchsia triphylla.—When well grown this distinct species is still one of the most charming of the genus. The peculiar colour is also by no means common and the numerous varieties that have been raised from time to time. If memory serves me rightly, Mr. George Frye, of Lewisham, who has raised a large number of varieties of Fuchsias, once told me that he had employed this species upon more than one occasion with good results. To get it in good condition it appears to require more warmth than many kinds. Recently in No. 7 greenhouse at Kew a large group of plants was flowering splendidly, and the glowing cinnamon tone of its clusters of drooping flowers made it one of the most attractive of the pot plants then in bloom. Dwarf growing and distinct, both in habit and blossom, are points that should render this fine plant much more popular than at present it appears to be.

PUBLIC GARDENS.

Fortune Green, West Hampstead.—The residents of West Hampstead are making efforts to preserve the open space known as "Fortune Green" as a playground and place of recreation. The green, which was formerly waste of the manor of Hampstead, has been used as a village green for many years, and is still largely used for outdoor games, but it was recently decided that the public had no playing rights over it. As the result of a memorial from the inhabitants, the Hampstead Vestry have recently promised to contribute £3000, leaving a sum of £5000 to be raised, which includes the price of three cottages and gardens adjoining the green. The secretary to the committee of residents is Mr. F. Reeves Jones, Woodlea, Ajax Road, West Hampstead, who will be glad to receive communications from any willing to assist the committee in their object.

The weather in West Herts.—On each of the last thirteen days the shade temperature has risen above 72°, and on five of those days exceeded 80°. On the 14th inst. it reached 85°, which is the highest reading in shade as yet recorded here this summer. Although the days were so warm, several of the nights during that period proved quite cold and the days of yesterday consequently the range in temperature was then very great on occasions amounting to 32° and even one other to 35°. The ground temperatures are still very high, even for midsummer, that at 1 foot deep being 18° above, and at 2 feet deep 6° above their respective averages for the middle of July. Since June 10 only about half an inch of rain has fallen, and for more than three weeks no measurable quantity of rain-water has come through either percolation gauge. My lawns are again quite brown, so that the drought may be said to have again set in. The air has been lately very dry and calm, and on most days there has been an unusually good record of sunshine. On the 13th the difference between the readings of an ordinary thermometer and one with its bulb kept constantly moist amounted to as much as 19° at 3 p.m.—M. E. Berkhamsted.

Woburn Fruit Farm.—We are asked to state that Mr. Spencer Pickering will be very pleased to meet any horticulturists at the Woburn Experimental Fruit Farm, Ridgmont, L.N.W. Railway, on either the 20th or 24th of this month. Visitors are requested to send a notice of their intentions to Mr. Pickering, Harpenden, Herts, not later than three days before their proposed visit.

THE GARDEN.

No. 1288. SATURDAY, July 25, 1896. Vol. L.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ORCHARD AND FRUIT GARDEN.

ESPALIER PEARS.

The fact that while the majority of Pear trees on walls are this season without fruit, the espalier-trained trees almost without exception are exceedingly well cropped, increases my liking for this mode of training, and strengthens my conviction that in hot, dry autumns like that of last year the development and maturation of the buds are more natural and certain on espaliers than on wall trees. I can think of nothing else that can account for the wide difference in fruitfulness between the two sections this season, as the espalier trees bore quite as heavily last year as the wall trees, which proves that the barrenness of the latter was not caused by the strain of over-cropping. The good old Jargonne is fruiting grandly, and I am quite convinced of the superiority of fruit of this standard variety from espaliers over that grown on at least half sunny walls, maturity being often so very hurried in such positions during a spell of tropical weather. Fruit from espaliers also, if gathered in the nick of time, keeps much better than that from walls. That most useful December Pear Beurré d'Arenberg, a capital substitute for Winter Nelis where the latter does not do well, has needed much thinning this season on espaliers, and the tree is making capital growth. Even when the wall trees of this variety bear a full crop, which they generally do, the first from espaliers ripening at a later date lengthens the season of supply by a fortnight. Beurré d'Arenberg is one of the most useful Pears for dessert. Doyenné du Comice is an excellent espalier Pear, care, however, being necessary in well thinning out the old spurs and shoots so as to admit plenty of sun and air to secure ripeness and the formation of fruit buds. If this is neglected it is apt to fruit only on the terminal growths. The fruit on espaliers always hangs quite a fortnight after that from wall trees is gathered, this being a great boon, especially in early seasons, when Pears of this type come in with a glut and are gone in no time. The fruit from my trees is almost as well flavoured as from the walls, though certainly not so large. Président de la Cour, although somewhat shy except after very sunny autumns, is this year bearing a fair crop of fruit, but in this district, at any rate, this Pear needs a sunny wall. I have seen fruit of this variety from a wall tree growing in strong retentive soil at Caunton Manor of great size and excellent flavour. Beurré de Caupimont, a Pear not half so much grown in private gardens as it ought to be, might easily be taken for another variety when ripened on the south side of an espalier tree, as there in warm summers it puts on a crimson cheek much like Beurré Giffard, and deserves a place at least with second-rate flavoured Pears. The tree under my charge never misses a crop, and the fruit keeper for a fair time after it is fully ripe. The constant fertility of this Pear is proved by the fact that so many trees are planted by market growers in Kent and elsewhere. Winter Nelis, a Pear of the first water although somewhat small, should always be planted, as it seldom misses a crop so grown, at

least on light, well-drained soil. Beurré Clairageau, though requiring a wall to bring out its best virtues, is as prolific on an espalier as Beurré de Caupimont, and in spite of the sweeping condemnations it has so frequently received by Pear growers, I would advise a tree of it being included, as it will prevent an empty fruit room, even in the worst of seasons, and half a loaf is better than none. A tree or two of Louise Bonne of Jersey must be found room for, as healthy trees are often quite a picture with large bronzy checked fruits, which follow wall fruit in ripening, and are, I think, of equally good flavour. The largest fruits of Louise Bonne I have ever seen were on an old espalier tree in Essex. I have both Beurré Diel and Beurré Rance as espalier trees, and although the trees were shy at first, time has made them fertile. I cannot, however, recommend them for growing away from walls, at least in midland districts, more or less grittiness being present in the fruit even in the best of seasons. Flemish Beauty is quite at home under this method of training, and does not fall prematurely as it does from wall trees. Finally that showy and useful Pear Souvenir du Congrès is an annual bearer and possesses a most vigorous constitution, far more so in fact than its parent, Williams' Bon Chrétien. Pitmaston Duchess fruits far more freely with me on an espalier than on a south wall. As recently pointed out by "A. W." to be successful with espaliers the accumulation of too much wood must be prevented by judicious pruning, thinning out the old spurs at intervals.

Notts.

J. CRAWFORD.

Melon Eureka.—Grown alongside Hero of Lockinge this fine Melon is several days in advance of it and the quality is excellent. Although the fruit is large, averaging quite 6 lbs., the plants carry from four to six; the skin is light yellow, thin and beautifully netted, the flesh quite red in the centre, paling considerably towards the rind. The plants are vigorous and free in growth, and I should have had no difficulty in setting a dozen fruits on a plant had this been advisable. In cutting the fruits, it is not wise to wait for the cracking around the stem as seen in some varieties, for when this occurs they will probably be over ripe, and consequently the rich luscious flavour will be lost.—R.

Peach Waterloo.—This is now ripe in an unheated house and is an excellent first early variety. The tree is a vigorous, healthy grower and the fruits set freely. When quite ripe the skin is yellowish green, brightly striped with red on the side nearest the sun. The flesh is firm, yet juicy, pale in colour, and of a brisk pleasant flavour. Newly-planted trees obtained from a distance set many more fruit than could be allowed to remain, and although the growths were not cut back in the way some cultivators think necessary, the first season after planting, the young shoots are very satisfactory.—GROWER.

Thinning Apples and Pears.—The advice given to thin freely in early June will this season have done good where watering has been attended to. In some cases in light soils I have never seen such a failure on small trees owing to excessive drought and heat, the crop having dropped wholesale, so that thinning was scarcely needed. I note most of the Codlin type are cropping better than usual, and in the case of bush or pyramid trees I consider thinning, in spite of adverse seasons, a great assistance in getting the remainder of the fruit to swell freely. No matter whether the fruit is required for home use or for sale I strongly advise early thinning of Apples and Pears. I notice those trees not thinned of their fruit are much worse in every respect, as they have cast a great deal more fruit and are infested with insect pests and disease. On the other hand, trees thinned early are clean, and

though a few fruits have dropped, those left are making such progress that it will well repay the cultivator, where practicable, to mulch the winter tree. Many of the large kinds of Apples, Lord Derby, Ashmead's Kernel, Nonpareil, Haworthian, and others, specially late keepers, will well repay early thinning. In my own case I wish it had been practicable to thin the larger trees, but want of labour was the drawback. In cases where thinning has been neglected much good would follow removal of small, useless fruit in the case of late keeping Pears and Apples. I notice many of the largest kinds of Pears, such as Pitmaston Duchess, are doing grandly where early thinning was practised, and though thinning early in June requires care, it will readily be seen which fruits are taking the lead. Where the fruits are in huge clusters they cannot finish well.—W. S.

SEASONABLE WORK AMONG WALL FRUIT TREES.

WALL fruit trees are once more claiming attention, as they have made a considerable amount of growth since the first stopping. The young shoots then fastened back to the wires or wall also require an additional tie or shred and nail as the case may be to keep them flush with the wall. Where many wall trees are grown it takes up the principal part of one man's time to attend to them at this season of the year—that is if they are to be maintained in good order—but this is counterbalanced by the fact that such well-cared-for trees really require less pruning in winter time, and from a labour point of view this is a gain. Stopping carried out in a sensible manner renders the trees more fruitful and leads to the formation of fruiting spurs, while the tacking or tying back of the young shoots retained ensures a more thorough ripening of the wood than would be the case if they were allowed to project some distance from the wall. Both combined also prevent the fruit becoming too large and the tips of the shoots and undersides of the leaves can also be the more easily cleansed when the young wood is kept well fastened back to the wall. In some cases Morello Cherries will not have had attention in this way yet, but I fail to see the advantage to be gained by the delay, as the trees should be ready for netting as soon as the fruits commence to colour. The longer tacking or tying in delayed the more difficult it is to accomplish, as the wood becomes stiff and brittle, and if not carefully manipulated the young shoots will break clean out at the base. These shoots must be well thinned out, but at the same time a sufficiency should be left to well furnish the tree with bearing wood for the ensuing season. All not required are best cut clean out; it is not necessary to have spurs in Morello Cherry trees on walls. The trees of the sweet or dessert kinds should be well cleaned so soon as they are cleared of their crops. Stop back to four or five buds all superfluous growths, and fasten back in a neat manner all retained for extension. The breastwood on Apricot trees needs pinching back to within one or two buds from where previously stopped, and all lateral growths on young wood laid on should be stopped in the same manner. Continue to lay on a young shoot wherever room can be found without crowding, for there is no telling how soon it may be wanted to take the place of some adjacent branch that may die off suddenly. Give a final look over to the crop on the trees on west walls, and do not hesitate to thin should they appear too close together. On south walls the fruits of the Large Early variety will be ripening fast, and the Moor Park and other kinds are also swelling freely. Until the fruits commence to soften wash the trees as often as labour and supply of water will allow, and this in a measure will keep earwigs at bay. Now is the time to apply stimulants and water with no unspotted hand if fine, juicy and richly flavoured fruits are expected. Peach trees, including Nectarines, should be looked over for the last time, [and any growths not actually

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needed removed. Thinning of the fruit should have been completed ere this, and the principal conditions to observe now are to keep the foliage clean by washing as often as circumstances will allow, attending to root waterings when required, which is best ascertained by testing the soil in the border every other week, and applying stimulants either in a solid or liquid form, according to the condition of the trees. Also give attention to mulching, and renew the same should that previously applied have become worn out.

The thing to be most dreaded at this time of the year, especially during a dry time like the present, is red spider attacks. On light soils spider is almost sure to be troublesome, and it will also put in an appearance where the water supply is inadequate. Daily washings with clear cold water will keep down attacks, but where water cannot be had or spared, the trees should be syringed with some insecticide. This should only be resorted to as a last necessity, as I do not care to make use of insecticides after the fruits commence their final swelling. The Alexander Peach, as usual, will maintain its claim to be a first-rate early kind, and the fruits are colouring and swelling fast towards maturity.

Turning to Plums, many fruits have fallen during stoning, but there is still enough left on the trees. It will certainly be a record year for those two fine yellow Plums Jefferson's and Golden Drop. All trees of these two kinds are well laden. Growth was however much crippled by aphides in all cases early in the season, but after the latter were subdued, the trees grew away freely and have made a great deal of secondary growth. This should be pinched back and any necessary fastening back of young shoots attended to. In the case of old Plum trees it is a good plan to retain young shoots at intervals all over the tree to take the place of the old and worn out branches. If there is not room to fasten these back to the tree, they may be trained on the face of the old branches, keeping them in place with a few ties of raffia. There are not many places where methodical pruning of Plum trees can be followed out; nevertheless it is an excellent practice tending to keep the tree clean and also assisting the fruits to swell to a good size. By the same rule watering is generally neglected, to say nothing about the application of stimulants, and Plum trees are generally regarded as not being sufficiently valuable to warrant so much time and labour being bestowed on them in this direction. Trees that do receive careful attention in these matters are always more productive, and as a natural sequence keep much cleaner and give less trouble in the way of insects.

Pear trees will need another look over, stopping back all secondary growths. Pay great attention to the training of young shoots whether they be leaders to cordons or extensions at the ends of horizontal and fan trained trees. Heavily cropped trees should be lightened by a judicious thinning of the fruit, and in the case of cordon-trained trees it will be labour well spent if they are given occasional root waterings of diluted liquid manure. If this cannot be done they should most certainly have water, especially during such a dry season as the present. To prevent too rapid evaporation taking place, renew the surface mulch as often as is necessary, and an occasional washing of the foliage will do an immense amount of good during a spell of hot, dry weather. A. W.

Strawberry Latest of All.—This variety appears likely to be rather largely grown, for it possesses qualities that cannot be ignored by growers of this fruit. It is of vigorous growth, sets freely, and the berries come larger than those of any variety with which I am acquainted, Auguste Nicieza, perhaps, excepted. In a garden in the neighbourhood I saw some fruit of this variety, some of which could have been little short of 2 oz. in weight. The plants that yielded this fine fruit were exceptionally small, i.e. small, indeed, that the gardener hesitated as to whether he should set them out in the autumn. They ap-

peared to be the last runners that the plants made, and the weight of fruit and size of berries as compared with the crowns and foliage struck me as being phenomenal. The only fault is that the fruit is pale in colour, but this is compensated for by the flavour, which resembles that of British Queen, so useless in the majority of gardens on account of its shy-bearing character. I cannot, however, understand why the raiser gave it the name it bears, as it is but little later than President and Sir J. Paxton, to which excellent varieties it forms a good succession. It is evident that Mr. Laxton recognised very sterling and exceptional qualities in this Strawberry, for crossed with Noble it has given Leader, which appears to be an exceptionally fine kind. Latest of All itself is a seedling from British Queen, crossed with Helena Glodde; that after many years it seems probable we are on the point of seeing our markets well supplied with Strawberries that possess the true British Queen flavour.—J. C. B.

Pear Citron des Carmes—What a poor thing this is in a dry season like this year and last! I should say o're good-sized tree is enough for a whole parish, as the fruit begins to get discoloured in the centre before it leaves the tree. It is also both deficient in juice and flavour, and when a wet time occurs the fruit cracks so much as to be irrepresentable at table. On the Quince stock I find this sort fruits in a young state and also freely. It is not a good standard tree, but what is the use of having a lot of Pears that will only keep about twelve hours? Doyenne d'Eté, which ripens at the same time as the above, is a much better Pear although smaller in size, the flavour being better.—J. C. C.

CURRENTS AND GOOSEBERRIES AS TRAINED TREES.

On seeing last autumn in Norfolk a most prolific lot of Gooseberry trees, which were trained to a wire fence surrounding an orchard, I could not help thinking that the adaptability for training, both of the Gooseberry and Currant was not recognised as it ought to be, and that the system was admirably suited, not only for producing size of berry, but also the highest quality in many of the finest dessert Gooseberries, which are not always satisfactory when ripened under dense shade on ordinary bushes. The trees in question were trained in the ordinary fan fashion, wire netting of good height having been fixed to the fence to keep out rabbits. A space of 2 feet had been specially prepared for the roots, a good quantity of rich manure had been incorporated, and a thick mulch of leafy material applied as soon as the fruit was set. How many similar fences might be utilised in the same way, especially where pounds, shillings and pence are a consideration, as the best dessert sorts so grown would by reason of their extra good appearance and quality always command a good price in first-rate shops. Both Gooseberries and red and white Currents also do very well grown on the walls of fruit houses, sheds, and similar places, the best form being the ordinary fan or candelabrum, both of which are sold by nurserymen for the purpose. In one garden in Kent these two fruits were trained up the back walls of a range of forcing houses of medium height, the aspect being north, and they were not only ornamental, but useful, the fruit in this case ripening at a somewhat late date, and so prolonging the supply. Although a border had been prepared it was not visible as the gravel was laid over it to make it correspond with the rest of the path. To give the trees the best chance, however, the border should remain uncovered, to allow of full ingress of sun and air. The drainage and compost should be similar to those of a Vine border, and in dry summers good

rich mulchings and copious manurial waterings must be given, as a dry root run will cause wholesale dropping of the fruit and disfigurement of the leaves by red spider. This tiresome Gooseberry pest, together with the too well-known caterpillar, can be kept at bay with comparative ease under this form of culture, as every leaf and shoot can be reached by the spray from the garden engine or hand syringe, a good dressing with quassia extract where the trees are dormant, and a second as soon as the fruit is set generally sufficing. The chief advantage gained by this system is a succession of fruit for dessert, but the mere covering of unsightly walls, altogether apart from the yield of fruit, repays the labour. Some varieties are more suitable for training than others. Whitesmith and White Champagne amongst whites; Golden Drop, Golden Sion, and Yellow Champagne amongst yellows; Green Gage or Early Green Hairy, Glenton Green and Keepsake amongst greens, and Warrington, Red Champagne, Whinham's Industry, Keens' Seedling and Crown Bob amongst reds being the best, all having good constitutions and bearing fruit of good flavour. Of Currants, La Versaillaise and the White Grape are as good as any. J. CRAWFORD.

POULTRY IN APPLE ORCHARDS.

For many years I have advocated the introduction of poultry into Apple orchards, maintaining that they do good in two very distinct modes, firstly, by manuring the ground; secondly, by the destruction of the insects and grubs that hibernate in the soil. It was, therefore, with very much pleasure that I read in the "Bulletin on Apple Culture," from the Rhode Island Agricultural Station, a confirmation of my opinion. This bulletin is certainly one of the most valuable that I have received from this society. I may, therefore, be excused for calling attention to some of the most important facts that appear in it. It is stated in the introduction that the adoption of the spray pump against insects has given a new impetus to the growth of Apples in the State. Orchards that have been neglected for years are now being pruned and fertilised and made productive and profitable. We are told that the market period of the Apple has been prolonged by the use of cold storage, so that the ripening process has been retarded, and fresh Apples are now sold throughout the entire year, the superior Apples being used in this manner. As in England so in America, Apple trees are only profitable under favourable conditions, where the soil is good, the trees neither old nor overcrowded, and properly pruned and manured. In England the trees old orchards are often left entirely uncared for year after year. In the established orchards in Rhode Island they are dressed with farmyard manure during winter, or with wood ash, and in some cases with artificial manures. Near the coast they are manured with seaweed, and the experiments have been made of growing nitrogen-gathering crops combined with chemical manures. In some places crimson Clover is cultivated, which grows later in the season than red Clover, and is cut and used for a mulch about the trees or ploughed into the soil in the summer. This mulching often prevents Apples dropping prematurely from drought. In place of growing the trees as tall standards, Mr. Kinney, the reporter, advocates leaving the lower branches of the Apple trees to shield the soil and prevent its being dried by the sun. Engravings are given, showing the number of fruit-buds on branches properly exposed to the sunlight and those in partial shade. It appears that the Bordeaux mixture, well known in this country, is used as a spray for Apple trees to destroy fungi and insects, the first spraying being given before the flowers have opened, the second after the trees have passed out of blossom, and

subsequently others if necessary. The formula used at the Experiment Station to prepare the Bordeaux mixture is 6 lb. of sulphate of copper, 4 lb. of lime, and from 20 to 40 gallons of water, with 1 oz. of Paris green in each 10 gallons.

The Apple maggot appears to be extending in America, attacking the favourite Baldwin, which is so well known as being imported largely into this country, and rendering it entirely unfit for use. But the spraying the trees with Bordeaux mixture and Paris green has appeared to prevent all serious attacks of this insect. In the mature stage that insect is a fly which deposits its eggs in the pulp of the fruit beneath the skin. When these maggots grow within the fruit, which they render worthless, and when mature emerge from the Apple and go into the ground, lying in the pupa state beneath the surface soil among the grass roots. Samples of the earth, 6 inches square, were taken, and the number of maggots under the trees varied, according to the size, from 1600 to more than 12,000 under each tree, the pupa somewhat resembling kernels of wheat.

Now comes the point which was particularly interesting to me. The experiment was tried as to whether poultry, if confined to a small range and encouraged to scratch, would destroy these pupae. A large movable wire fence was placed about a tree whose fruit had been destroyed by insects. One side of the fence was raised, and about fifty hens were called into the enclosure. The fence was let down, and they were confined to the space around the tree. As soon as they had eaten the corn they naturally began to scratch for the pupa, and in the course of three or four days it was found that the latter had disappeared. As these insects remain in the pupa state from the fall of the Apple to the following spring when they appear, it may be expected that next year the number of flies breeding the Apple maggot will be greatly diminished in the localities where the plant is followed.

From personal experience, extending over many years, I can speak positively of the advantages of allowing fowls and chickens to free range in Apple orchards; they not only manure the soil and destroy all insects harboring in it, but they find, for some weeks at least, a considerable proportion of their own food—the windfalls, which they devour greedily with any grub they may contain. The raising of poultry for sale may be much more advantageously carried on where the land is made to produce two crops, namely, Apples and eggs, than where one only is gathered.—W. B. MEIER, in *Field*.

LONG-CROPPING STRAWBERRIES.

STRAWBERRIES differ very much in regard to the time they continue to yield fruit, some varieties, like many of the Peas, maturing their crop all at once, the smaller fruit seldom swelling. Other sorts there are, and these are invaluable for small gardens where a great variety cannot be accommodated, that continue to swell and ripen their fruit over a considerably longer period, the last to ripen being almost as large as the first. Amongst these must be mentioned Gunton Park. This grand Strawberry, which ripens its first set of fruit soon after Royal Sovereign, continues its supply fully a fortnight after this is done with. Moreover, the fruit is borne upon stout, erect stems, and thus is kept from contact with the damp ground or mulching and from the attacks of slugs. This year, just as the fruit of Noble and Royal Sovereign was ripening, a good many heavy showers of rain fell, which had the effect of bringing to the surface a colony of slugs, many of the best fruit being consequently spoilt; on the other hand, although similar weather prevailed when Gunton Park was ripening, not more than half a dozen fruits were touched by these pests. I saw recently in a paper the suggestion that this Strawberry had only one drawback, "this being a white rose," but I think this statement is incorrect, and therefore misleading, as every fruit on my three long rows of plants coloured beautifully to the tips. Another variety seldom

heard of and belonging to this continuous cropping section is Premier, a Hertfordshire raised Strawberry of great merit. I was recommended to try it as a substitute for Sir Joseph Paxton, as that standard variety would not crop with me. Premier is very similar to Sir Joseph in appearance and not unlike it in flavour, but its fruit, like that of Gunton Park, is borne on stout, upright stems, and fruit of good size may be gathered for fully three weeks. It is one of the very best for growing Strawberries I know, as the deep rich colour goes right into the centre of the fruit. Although these two Strawberries prefer a somewhat strong soil, they will succeed well in a medium one if liberally mulched early in the season before the spring winds, coupled with sun heat, deprive the ground of all the moisture. Although Gunton Park and Premier do not actually belong to the late kinds, yet I believe they would prove most valuable on a north border, to come in between the ordinary crop and such really late varieties, as Elton Pine and Oxonian. C. C. H.

Dwarfing stocks v. drought.—The drought that has now lasted over three months is now aggravated by excessive heat and drying winds with dewless nights. Fruit trees are suffering very much; in fact the continuous dropping of the young fruit has already left many of the trees that had a fair crop set with hardly a fruit on them. Doubtless this is partially due to having had several years in succession a very short rainfall, whilst last year's heavy crop of fruit left many trees in an exhausted condition. The most noticeable fact in connection with this trying season is that while trees on free stocks are holding their own as regards making young growth, those on dwarfing stocks appear to be dwarfed too much by the combined effects of stock and drought. I have a row of Williams' Bon Chrétien Pear planted on good fresh soil, free stock and Crab being planted alternately. Those on the Crab are scarcely making any growth at all, although quite young trees. The same thing is to be observed with the Apples. Although I have been a great admirer of dwarfing stocks, I feel that if our seasons are going to continue like the past few years we shall need no dwarfing stocks—at least on these soils. I am well aware of what can be done with mulching and copious watering, but if hardy fruits are grown for profit, it will militate considerably against dwarfed trees if mulching and watering are absolutely necessary to get even average sized trees and fruits. The past winter was remarkable for being both mild and dry. Spring was almost entirely free from showers, while the summer thus far has been continuously dry and with bright sunshines far above the average, so that surface rooting stocks, unless artificially supplied with water, are suffering severely.—J. GROOM, *Gosport*.

KITCHEN GARDEN.

CONTINUOUS BEARING PEAS.

EARLY Peas being such an important crop in all gardens, Mr. Young's notes on them in last week's issue must have been read with interest. I think, however, that after all the attention that has of late years been given to the improvement of early and second early varieties, a little should now be given to those varieties valuable for their continuous bearing properties. This is perhaps not so important to gardeners who happen to have a large area which they can devote to Pea growing, as sowings can be made so frequently as to prevent the possibility of a break in the supply, but in small gardens, growing many of those sorts which mature the whole of their crop almost simultaneously is decidedly a disadvantage, as it is often difficult, even with the most careful selection, to keep up the supply. Of course,

there is not much choice in this matter so far as the very earliest round-seeded Peas are concerned, and all are obliged to grow more or less of these for the sake of earliness alone. Fortunately, however, there is more of a choice in the second early and successional sections, some varieties if well treated continuing to yield over a much longer period than others, and those who have proved the value of these as have done will not hurriedly ignore them for newer kinds. One of the most valuable second early blue wrinkled Peas I have ever grown is Wordsley Wonder. It is of convenient height, from 2½ feet to 3 feet, is a prodigious cropper, filling its pods very gradually and remaining in an eatable state much longer than most sorts. This will be found invaluable in gardens of a warm sandy nature, as it is a capital drought-resister. The flavour is excellent. Laxton's Fillbasket belongs to the same category, its flavour in my opinion being quite equal to that of Ne Plus Ultra. If this Pea is well mulched and watered several times, and in sandy soils grown in shallow trenches, it will please even the most fastidious, perfecting its latest formed pods and furnishing pickings over a long period. A Pea of the highest merit, not only for its continuous bearing habit and long-keeping qualities, but also for its dark green colour and delicious flavour, is Criterion. One gardener has just described it as the summer Ne Plus Ultra. Tall sticks are, however, needed to support it, as in moist seasons and on good deep soil it will grow to between 5 feet and 6 feet in height. Another Pea—of the Stratagem type and height, but excelling that grand old variety in the matter of continuous cropping—is Sharpe's Queen. A most prodigious bearer, with great length of pod and fine dark green colour, it is, in addition to being an exquisite table Pea, unequalled for exhibition. Sharpe's Queen, although apparently not generally known, is much grown in Lincolnshire and South Notts. Autocrat, which is classed as a late Pea, is one of the most valuable introductions of recent years, and certainly as a continuous cropper cannot be beaten. This fact, coupled with its convenient height and splendid quality when cooked, renders it indispensable for all gardens, whether small or great. I have sown Autocrat on a light, warm soil in a dry season with the second earlies, and by the aid of a mulching and watering with liquid manure have secured grand yields, the bold vigorous haulm retaining its freshness to the very last. Another splendid late variety is found in Sturdy, a 3-foot Pea, vigorous in growth and continuous in cropping, the very Pea for shallow and warm soils. Ne Plus Ultra, too well known to need describing, is indispensable where sufficiently tall sticks are procurable, and Walker's Perpetual Bearer, of 3 feet stature, complete a list of second early main crop and late varieties sufficient for limited-sized gardens where continuous bearing is necessarily a consideration.

J. CRAWFORD.

Outdoor Tomatoes.—This season suits the Tomato, and those who have spare walls to devote to them will probably gather fine crops, at least, if the later part of the summer is anything like the beginning. I have a long wall about 5 feet high with west aspect, and about half of it is devoted to Tomatoes, the varieties being Ham Green and Perfection. The seed was sown in February, the seedlings potted off singly into 3-inch pots, and in March transferred to 6-inch pots. By the middle of April they were fine plants, showing fruit, and were stood outdoors to harden them off. As the weather was quite warm they were planted out the last week in April and

nailed close to the wall at once. Although we had several frosts in May the warmth of the wall kept them quite safe. They grew away rapidly, however, reaching the top of the wall, and are regularly furnished with bunches of fruit from base to summit. Those I planted 1½ feet apart and kept closely pinched in a single stem; for after trying all sorts of ways, I am satisfied that this is the only plan suitable to open-air culture. The roots have been mulched with short manure, and I am now giving water over this to swell up the fruit. Some of the earliest are nearly fit for cutting, and if you can get some good fruits ripe in July and continue cutting through August and September, outdoor Tomatoes are by no means a poor crop. To get them thus early they must be first-rate plants to start with, for small plants put out of 3-inch pots in May will hardly have a ripe fruit before September, and then all depends on the weather. Last year we had exceptionally hot dry weather right up to the end of September, and the plants ripened fruit right up to the top of the wall.—J. G., Gosport.

PEAS FOR AMATEURS.

THE majority of amateurs prefer to grow Peas of medium stature, thus avoiding the use of tall sticks, and being able to make the most of their ground, which is often limited, by growing other crops between the rows. If a little extra distance is allowed between the rows, such things as dwarf-topped Potatoes, or even Cauliflowers, in addition to Spinach, may safely be ventured on, as sufficient light and air will reach them to bring them to perfection, and with care the Peas may be gathered without injury to the other crops. A few stout sticks driven in at intervals, and strong twine taken from one to the other, are quite sufficient to keep the haulm in its place, as these shorter varieties are not influenced by high winds as are the taller sorts. Amateurs, as well as others, are generally anxious to pick Peas as soon as possible, and many of them go to much pains to gather at the end of May or early part of June. This may pretty easily be accomplished by all who have a cold frame, and few amateurs, indeed, lack this convenience. See, of either German Wonder, English Wonder, Little Gem, Chelsea Gem, or William Hurst, if sown in 4-inch pots in December and plunged to the rim in the frame, plenty of air being given through that month, January and February, will produce plants sturdy and strong, fit for transplanting to a warm sheltered border in March, and qualified to afford well-filled pods the last week in May. Amateurs who have neither the room nor need for growing a multiplicity of early varieties may well confine themselves to Chelsea Gem and William Hurst, for no two better early Peas can possibly be found, the former perhaps having the preference. Then if a sowing in the open ground of either of these sorts is made when the frame-raised batch is planted out, it will follow on just when wanted, the best plan for this class of cultivators to adopt in order to secure a fairly constant and good succession being to sow a fresh row as soon as the previous one is through the ground. To follow on, Wordsley Wonder is a tall and medium height Pea, standing dry weather well and yielding immense crops, the flavour being excellent. This Pea is not nearly so widely known even amongst private gardeners as it should be. Strategem is a very worthy variety of the same category as regards stature, and just the Pea for amateurs whose soil may be neither deep nor rich, as its thick sappy haulm does not collapse in a dry season in such a medium so soon as that of many of the slender growing sorts, especially if a mulch of lawn mowings is applied.

Sharp's Queen, a fine blue Marrow, in height about 2½ feet, is a most worthy companion to Strategem, having a grand constitution and holding itself erect with the least support. This Pea is the most popular amateur's one for midseason gatherings for many miles round this neighbourhood. Its flavour is as good as that of Ne Plus Ultra. Veitch's Dwarf Mammoth, a Pea

of dwarf vigorous habit, is the very Pea for amateurs who go in for exhibiting, coming in well for autumn shows and continuing to crop for a considerable time. One or two sowings of the now popular Autocrat to finish out the season complete a list hard to surpass for the amateur with either a limited or large area. Autocrat if well watered continues to bear longer than any other sort I know, and although a little taller than the foregoing, is easily supported by sticks and twine.

J. CRAWFORD.
Newark.

PEA GRADUS.

I FORMED so good an opinion of the above after a season's trial that I came to the conclusion it was one of the best of the late Mr. Laxton's seedlings. I regret to see that in many places this Pea is quite different from the original type. Though received in sealed packets, which should certainly be a guarantee of purity, my Gradus is not worth growing compared with the original type. Fortunately, I saved a small quantity of the true kind, as it does so much better when well ripened, and as it is not always convenient to send one's seed order in December, I always get my forcing seed well ripened for December sowing in pots. I am aware the Pea soon deteriorates, and unless the rogueing is done carefully, the stock soon gets mixed. I fear many will have condemned Gradus as a worthless variety when they have been growing a different Pea altogether. As I recommended Gradus in a short note last season, I am induced to send this note in defence of the true variety. The original Pea sent out by Mr. Laxton grew 3 feet high, a distinct early Marrow, with seven to nine Peas closely packed in a pod, and of large size, the flavour superior to that of many of the first earlies. For forcing I found it so good that I grew it largely and omitted Duke of Albany, which is taller, later, and less prolific. I trust we shall not lose sight of this good Pea, as though there may be others equally good, we have none too many 3 feet varieties which can be sown early in the year and produce heavy crops at the end of May and early in June. Those who do not need very early Peas and who are short of space, if they can get the original Gradus will, I am sure, be pleased with it. For years I have studied the qualities of the first early varieties with distinct Marrow blood, and tested all noted for hardness, and I find those with a deep green colour, straight pod, and good sized leaf resist cold winds better. Gradus possesses these characteristics. The spurious variety is much taller, 5 feet in height, the foliage a lighter green, and the Peas quite a fortnight later than those of the true type. I could name other vegetables which have suffered in a similar way and which should have had the greatest care possible during the growth of the seed. I am aware growers often have to send their stocks far from home, and cannot see them so often as necessary. This mixing may be done unintentionally, but it is not encouraging to the grower who purchases the seed. In gardens where only a limited amount can be spent a failure of any kind is a serious matter.

S. H. B.

NOTES FROM NEW JERSEY.

WILD ROSES.—The flowering of these has been a welcome feature. R. rugosa in its two varieties forms great bushes, literally smothered with flowers. R. multiflora (R. polyantha) has been freely planted in the shrub groups, but it puzzles me somewhat owing to the quantity of strong sharp spines along its rambling shoots. In leaf growth, amazing profusion of snowy blossom and scent it is identically the same as I knew it in

England, but it was there almost a thornless Rose, whereas here it is as rough as a Dog Rose. R. lucida is plentiful in a wild state. By the time this reaches you, R. Wichurana will have expanded its first flowers. We have two great masses of it on a slope. It is clearly one of the hardiest of wild Roses, and all who care for these should grow it largely.

WILD VINES.—These are very beautiful now, scrambling over stony banks, smothering low bushes, and where opportunity occurs, clambering to the top of tall Oaks and Maples. The great size of the leaves and their varied shapes, too, are pleasing features, those of P. Labrusca, broad and rounded, with their under-surfaces almost as white as wool, and beside it in striking contrast, V. astivialis, deeply lobed. Two such hardy hand-some-leaved Vines should surely more often be seen in gardens.

THE SCENTED SUMACH (*Rhus aromatica*) should be a welcome addition to sweet-smelling shrubs, but I do not remember to have seen it in English gardens. Mr. Nicholson, in his "Dictionary," gives it a stature of 8 feet. We have several plants in it, but not exceeding 4 feet in height. It makes a nice margin to a shrub group, spreading over the ground and rooting as it goes. It has a pleasant balsamic odour all the year round if the naked shoots are rubbed, but the scent is powerful now the shrub is in its summer dress. In habit of growth it is slender, but erect, its leafage is abundant, the leaves consisting of three leaflets on a red leaf-stalk. It is one of the earliest shrubs in bloom, putting forth profusely all along its slender branches clusters of clear tiny yellow flowers. Now, too, among the ample leafage and upon the old flowering wood are thick clusters of showy berries, each about as large as a pea, of a bright red colour and thickly covered with short bristly hairs. It is certainly pretty in all its aspects of flower, fruit and foliage.

THE WEEPING RUSSIAN MULBERRY.—This has become rapidly popular as a small weeping tree, but with one exception every tree I have seen is as near a counterpart of another as peas in a pod owing to the stupid trade custom of working them all on a stock and as nearly as possible at a regulation height from the ground. Now for the exception, namely, a tree upon its own roots, and which I saw at Dosoris in the early spring. Mr. Falconer as soon as he got this Mulberry layered a shoot of it. When rooted he planted it out and kept the leading shoot always tied upwards to a stout Bamboo cane. The tree I saw was about 15 feet high, but all the branches drooped in their own characteristic way. It is fruiting freely with us, and the fruits now ripe are quite pleasant to eat.

WISTARIA BRACHYBOTYES.—Although the Chinese species ranks so high, it should not do so to the utter exclusion of other kinds, especially this under notice, assuming that it will flower as abundantly in England as here. W. brachybotrys comes later than its Chinese relative. It has much smaller leaves, consisting of about fourteen pairs of leaflets and a terminal one, whilst the flowers are literally packed into a dense conical cluster of from sixty flowers upwards. They are of a deep shade of mouse-blue, and there is a white form, charmingly pure and effective in colour. The flower clusters appear at every eye along the shoots made last year.

RUBECKIA HIJII, which was figured in THE GARDEN for February 29 of this year, is now an abundant wild flower with us, and pretty too. I have compared specimens with the plate, which does perfect justice to and truthfully represents the plant. I can gather it in almost any grass field among the Ox-eye Daisies.

IRIS VERSICOLOR I found in quantity recently in marshy meadows with many flowers on much-branched stems about a yard high, the flowers individually pretty in exquisite shades of light and dark blue, but the effect as a whole a little disappointing, possibly because their kinds are so numerous.

A. HERRINGTON.

Madison, N.J.

ST. ANNE'S, LEWES.

THE illustration we give to-day shows well the value of climbing plants and the vigour with which they grow when well planted in the first instance and allowed to grow unfettered with tie, nail and shred. The number of plants that may be used for draping the front of a house—as in the illustration, is practically unlimited, as in the south we can have many that require in some districts the protection of a greenhouse. Take, for example, *Solanum jasminoides*, which in a favourable locality will reach the eaves of a house in two seasons. When well established, the plants are smothered with bloom in the

Opinions differ as to the best plants that can be used for covering a house: we think that too many deciduous plants are employed. During the summer and autumn, when these are in flower, a beautiful effect may be obtained by their use, but in the winter when the leaves have fallen the walls are bare and uninteresting. If evergreen plants were employed, a different aspect would be given during the winter. The Iries in their varied forms are indispensable and are unsurpassed for quickly covering a large space. *Garrya elliptica* is not at all particular as to aspect, and this when laden with catkins is very beautiful. Coton-easter and the various forms of *Crataegus* are

pillars and arches have Roses of different kinds trained on them. The turf slopes to a gravel path, on the other side of which is a wide border edged with Box and filled with Roses, Lilies, and many other bulbous plants, which keep up a most interesting succession of flowers from January to October.

ORCHIDS.

HARDY CYPRIPEDIUMS.

AMONG hardy terrestrial Orchids the Cyprpediums are pre-eminently the most beautiful. They are easily grown provided a few very



Creepers on house, St. Anne's, Lewes, Sussex. From a photograph sent by Mrs. A. C. Monk.

autumn. *Physianthus albens*, too, in the south-west counties of England also does well, bearing white flowers in abundance. *Bignonia radicans* in warm situations is also very beautiful, its graceful leafage and orange-scarlet flowers being very effective. *Tropaeolum speciosum* in some districts grows like a weed, threading other climbers with its rapid growing shoots and clothing them with vivid scarlet. In any selection of Roses that may be used for hiding a wall of a house, *Rosa d'Or* should always be included. Plants that bloom in the winter may be found in the Winter Sweet (*Chimonanthus fragrans*), *Lonicera fragrantissima* and *Jasminum nudiflorum*, whose long sprays will be found so valuable for cutting.

attractive in winter owing to the highly-coloured berries, all the more effective in their setting of evergreen foliage. *Escallonia*, again, should always have a place, as well as the many beautiful Magnolias that we now have. By employing a mixture of evergreen and deciduous plants to clothe a wall we get rid of the bareness that is always present when the latter lose their leaves.

Mrs. A. C. Monk, who kindly sent us the photo from which the illustration was prepared, sends us the following note:—

This photograph shows the garden front of the house, facing south. The verandah is wreathed with Clematis, the wall of the house nearly covered with Roses and *Vitis inconstans*, and the

simple cultural details are attended to; and, simple though these may be, they are at the same time absolutely essential for the continued success of these plants. Primarily their chief requirements, perhaps, and excepting minor details, are shade, moisture, and peaty soil. For such kinds as *macranthum*, *spectabile*, *californicum*, and others, a moist peaty soil and cooling shade are absolutely necessary. I well remember a very charming bed at the Tooting nurseries of the Messrs. Rollinson some twenty-five years ago of *C. spectabile* that then existed beside the wall of one of the cool Orchid houses there. This bed at that time was among the sights of the nursery, being fully 50 feet long and about 2 feet wide. The bed was filled with the

abundant peat siftings from the hard-wooded department of the nursery, and being further assisted with the second-rate Sphagnum Moss from the Orchid houses, at once provided the plants with all they needed in the matter of soil. Originally some very large tufts were planted there, and their flowering was eagerly anticipated each year. Shade was provided by the wall of the greenhouse referred to, and the plants were evidently well satisfied with their lot. I mention the circumstance as showing how readily such things may be accommodated in gardens, though there are many positions in which such things would appear much more beautiful and decidedly more natural by their surroundings. In all large gardens, low-lying, shady spots are of a surety to be found, and even if non-existent, may at little trouble and expense be prepared for these and plants whose requirements are similar. It should be remembered that this class of plants is for the most part summer flowers, and starting as they do rather late into growth, provides ample opportunity for other things, particularly early flowers, and an equal chance of late things also, to flower without in the least interfering with the subject of these remarks. In this way what was really meant for a bed of hardy Cypripediums may readily be converted into a peat bed for many things, and thereby provide an interesting array of choice and beautiful plants for the greater part of the year. As an instance of what I mean by this mixed arrangement of peat-loving subjects, the cultivator may embrace such things as Trilliums for very early spring, especially grandiflorum, erythrocarpum, and californicum, to be succeeded by Anemone nemorosa coriacea, as a carpet here and there, and a few masses of Primulas, such as Sieboldii varieties, roses, cashmerianas, and others; then for May, the yellow Chrysobactron Hookeri, to be followed a little later by the earliest Lilies, such as pomponium, pulchellum, and the orange carnarium, with which would flower the masses of Cypripedium spectabile. Then for a later display other Lilies may be relied upon, which would make the whole beautiful and interesting for a long time. But if it were intended to embrace the majority of the hardy Lady's Slippers, these alone would require a bed of several feet across, and much would depend on individual taste and other things. The following are among the best of these plants, and as a rule quite successful in the open garden in the position indicated above.—

CYPRIEDELLA ACULEA (the Stemless Lady's Slipper).—The specific name here given is rather difficult to understand, since the beautiful purple-red blossoms are borne on stems about 6 inches or 8 inches long. The plant is a native of North America, and is usually flowered from collected roots and rather difficult to establish in this country.

C. CALCEOLUS (English Lady's Slipper).—The only British representation of the genus, and now extinct as such, though abundant in Germany, Switzerland, and other places, and may be obtained quite cheaply in the autumn of each year. The fragrant flowers are produced on leesy stems 1 foot or more high, the sepals and petals of a purple-brown hue, with rich yellow labellum. This species grows quite freely in loamy soils, particularly such as contain a certain amount of lime, and shade is not absolutely needful for it. Protected from cutting winds, this is a charming plant in early spring and one quite easy of culture, and being inexpensive may be freely planted.

C. AETIENCIUM (Ram's-head Cypripedium).—This is a curious little plant, possessing no real merit from a garden point of view, though full of interest botanically. Its flowers are insignificant compared with those of the best mem-

bers of this beautiful race of plants. Native of North America.

C. CALIFORNICUM.—This is a rare and beautiful species, very difficult to establish successfully in English gardens. The flowers are white and tinted rose, the sepals of greenish yellow and petals pale yellow. This species should be grown in peat and Sphagnum Moss in moist, shady places.

C. CANDIDUM (white Lady's Slipper).—This is another with small flowers of no great value except to the botanist. It is a rare species from North America, growing 1 foot high, the sepals and petals purple and white, the labellum pure white. Should be grown in shade in moist, peaty soil and decayed leaves.

C. CUTTATUM (Spotted Lady's Slipper).—A beautiful and rare species from Siberia and parts of Russia, the plant attaining to 1 foot or more in height, and producing on lefy stems its pleasing flowers. These latter are of fair size, the labellum white and distinctly spotted with rosy purple. It is rare under cultivation and very difficult to keep after the first year. This species is very distinct in its roots, the latter not unlike the creeping underground stems of the Lily of the Valley. In a very large consignment received some years ago only one or two plants produced flowers. Could this species be freely established, it would figure among the best of the group. Those who attempt its culture should grow it in very shady spots in peat and well decayed leaves, keeping it as cool as possible and in comparatively dry places.

C. JAPONICUM (Japanese Lady's Slipper).—A neat and beautiful species, easily and handsomely flowering, in which the sepals and petals are greenish-white and the labellum white. The plant is not so difficult to cultivate as some, and may be grown in peat and loam in equal parts, with shade and summer moisture. Though quite hardy so far as winter frosts are concerned, it needs protection or a sheltered spot from the harsh winds of spring.

C. MACRANTHUM (large Lady's Slipper).—This is a handsome species from Siberia, with large flowers of a uniform purplish rose colour with deeper coloured veins, and has been repeatedly exhibited recently at the Drill Hall. Several nicely flowered examples were also noticed at Kew during the past few weeks. Under cultivation it succeeds best in loamy soils in much the same way as the English Lady's Slipper.

C. OCCIDENTALE (*MONTANUM*) (Mountain Lady's Slipper).—A pretty species growing 18 inches high, with slightly pubescent leaves and from one to three flowers on a stem. The petals are brownish purple, labellum white; it should be grown in damp peat and shade. Native of California.

C. PARVIFLORUM.—This species, also pubescent, has the outward aspect of *C. Calceolus*, but the flowers are much smaller. Both kinds are of easy culture, having brownish sepals and pale yellow lip, and differ in the size of the flowers and other minor details. Should be grown in loamy soil with leaf-soil added, and planted in a good depth of this quickly becomes established in shade, sheltered places.

C. SPECIOSA (Moccasin Flower).—Undoubtedly the most beautiful as well as the showiest, and at the same time most easily grown of all the tribe. It is impossible to over-praise the merits of this chaste and lovely species, for it is at once the most satisfactory of all either on a large or small scale. It loves a deep bed of peat and decayed leaves, with ample shade overhead and constant cooling moisture at the root, and in such a position quickly establishes itself and flowers freely each year. In a moist, boggy bed of peat with a trickling stream keeping the bed ever moist I have grown this plant to perfection, the large masses planted intact as received producing in some instances a dozen of the leafy spikes, many bearing two flowers. The plant is rather variable in the flowers, some being very rich and deeply coloured, and others nearly pure white, exceedingly chaste and delicate.

In all its forms it is

a most delightful plant, and as such should be made much of in English gardens. The best time to plant this unique species is late autumn, as soon as the fresh importations are to hand, and having carefully tested the vitality of the roots, which should be of a creamy yellow tint if fresh and healthy, plant without further delay. Any brown decayed roots should be cut away and the fresh roots spread out horizontally, covering them and the strong plump crowns with peaty soil. In the finest masses the crowns are nearly buried from sight in an accumulation of leafy matter while usually the old flowering stems and growth of the year are still adhering thereto. Well established, it attains 2 feet high and more, considerably so in its native home, where it is found in boggy woods, moist meadows and the like, conditions we must imitate if we would succeed in its culture. It is a prince among its kind, and one wonders why some attempt has not been made to hybridise this with such as *macranthum*, *Calceolus* or *pubescens*, as a series of hybrids of these could not fail to be full of interest.

E. J.

Odontoglossum mirandum.—This is a very distinct Odontogloss and worthy of greater care than many that are more popular. The blossoms, as large as a medium-sized *O. crispum* and of a reddish chocolate or plum colour, margined with yellow, are produced on long arching escape, usually simple, and containing nine or ten blossoms. Quite cool treatment suits it best, and it should be grown in as small pots as possible and given a thin layer of compost. It should be well watered while making its growth, and in winter or summer must never be really dry for any length of time. Introduced from New Grenada about 1880, it has never become really popular and would make a useful addition to many collections.

Odontoglossum maculatum.—Some flowers of this old species that opened on May 6 are now (July 13) still open and fairly fresh, though, as may be imagined, a little wanting in colour after being open nearly ten weeks. Few others in the genus would carry their flowers so long without injury, and few are more free or constant in blooming. Some of the varieties are bright and very effective in colour, while others are rather dull, but all are worth growing. The plant is cheap and of the simplest culture, thriving in a cool house in peat and Moss. It comes from Mexico and was introduced in 1838.

Promenaea stapelioides.—This is a pretty little plant doing well in quite a cool house suspended from the roof in wood baskets or small pans. The pseudo-bulbs grow closely together, and from the base of each of these a single-flowered spike issues horizontally. The sepals and petals are yellowish, with broad stripes of purple, and the lip is very similar in colour. An ordinary mixture of compost, and not too much of it, suits this plant well, anything of a close or heavy nature being sure to bring about disaster. It is a native of the Organ Mountains, of Brazil, and was introduced in 1830.

Peristeria elata.—This, the well-known Dove Orchid, is now in flower, and owing to the length of the spikes on strong plants will continue in bloom over a long period. The flowers are entirely white, the lip and column forming a striking and beautiful resemblance to a dove. It is an Orchid that must be very liberally treated to get good results, and the compost may be similar to that used for the stronger growing Phaius or *Cymbidiums*. During the season of growth the plants must be freely watered and the foliage kept clean by sponging or syringing, but after the growth is complete they will need but little moisture. It is an old Orchid in cultivation, having been introduced from Panama as far back as 1826, and the heat of the Cattley house is most congenial to its growth.

Cypripedium leucorrhodum.—This pretty and free-flowering hybrid is closely related to *C. Sedenii* and is one of the best of its class. Like the latter, it produces a many-flowered scape, in

which the flowers have a very pale rose-tinted dorsal sepal, the petals also similarly coloured, long and narrow. The pouch is nearly pure white in ground colour with a rosy-pink suffusion on the front. Grown in an intermediate house kept free of insects and potted up as described for others in the genus, this plant will be satisfactory. It is a strong grower and keeps on flowering a long time on account of the number of blossoms successively produced on the scapes and the freedom with which the latter occur.

Mormodes luxatum eburneum.—Probably this is the best, as it is the most popular, of the varieties of *M. luxatum*, and a fine plant, undoubtedly, when well done. It differs from the typical kind in having flowers of a clear cream white, with no other colour about them. The plants thrive in the Cattleya house in a light position, but as long as the foliage is in good order they will be shaded from bright sunshine. During the resting season they will require very little water and may be placed quite up to the light in a cool house. The most critical time is

reached from a correspondent who was fortunate enough to flower it from some imported plants. This form was about $7\frac{1}{2}$ inches across, the sepals and petals rich rosy magenta, the lip broad and spreading, bright purplish-crimson lined with golden yellow—a rich and beautiful combination. In habit this fine Cattleya most resembles *C. gigas*, and the treatment often recommended for that kind will also suit C. Hardyanæ.—R.

Epidendrum falcatum.—Most Orchid growers know this peculiar species and recognise it by the drooping foliage, which is quite distinct from that of any other Epidendrum. The flowers are not particularly showy, but they last a long time in good condition, and if the plants are suspended in a good light and strongly shaded, they are freely produced. They occur at the apex of growth singly or in pairs, and the sepals and petals are of a greenish tint, shaded with brown. The lip is deep orange, of a rather peculiar shape. The plants may be well grown in baskets of clean Sphagnum Moss and a little peat and charcoal. The Cattleya house is the most suitable

nearly 2 inches across, the sepals the usual brown and green, the lip bright purple with a fine dark crest. *Z. maxillare* does best in an intermediate house, and in whatever way it is grown it should not be overburdened with compost. It does best of all, perhaps, on its natural growing, viz., a piece of Tree Fern stem, and requires careful watering during winter.

VANDAS.

The genus *Vanda* is somewhat neglected at present, and I trust the three pots of *Vanda* here represented will induce lovers of Orchids to promptly take them in hand. Two are baskets of *Vanda corulea* which has very unjustly, from my point of view, the reputation of being bad to keep in health. *Vanda tricolor* var. *formosa* is the tall plant at back, whose golden, brown-spotted, and crimson-lipped flowers contrast most admirably with the bright grey blue of the *Vanda corulea*. It is not generally realised, I think, how freely and continuously *Vanda tricolor* blooms when grown in an airy house and well rested in early spring.

The plant here shown gave six spikes of bloom between March and November, and never was without flower during that period. *Vanda corulea* only blooms once, but then what a magnificent sight it can be! It is, moreover, most enduring and free, so that I have baskets covered with long and large spikes of flower from the end of July to the end of November. *Vanda corulea* should be grown near the bottom ventilators in a warm viney from April till October, when it should be placed in an airy stove to finish its growth and bloom, remaining there till the sun has enough power in February to allow it to be rested in an ordinary plant house where Primulas and Geraniums thrive. There it should remain till the vines are growing freely and syringed daily, then put the *Vandas* back in the viney, where they enjoy the Vine treatment thoroughly, and will yearly increase in vigour

and beauty with this cool dry rest in early spring. *Vanda tricolor* enjoys a little more heat and moisture, but the reason that these lovely and lasting flowers are so little grown and shown is that they generally get more heat and moisture than are good for them. Each year enlarges my list of Orchids that thrive best under viney treatment, and where *Vanda corulea*, *Cymbidium Lowianum*, and various *Dendrobiums* are found most happy under such conditions, no wonder the experiment is tried with other species and their varieties.

EDWARD H. WOODALL.

St. Nicholas House, Scarborough.



A group of Vandas. From a photograph sent by Mr. E. H. Woodall, St. Nicholas House, Scarborough.

just as new growths push in spring, these being easily injured by overexposure of water or bright bursts of sunshine. It is a native of Mexico, whence the typical plant was introduced in 1842.

Bulbophyllum candida.—Several plants of this pretty species are now in flower, and it is much to be both on account of its graceful appearance and purity of colouring, also its fragrance. The flowers occur on erect spikes, that by the weight of the blossoms are brought to a semi-drooping pose, and are pure white, with a yellow stain to the lip. It is one of the easiest of Orchids to grow, provided it is given a little attention to keep the roots from getting too far away from the compost. It does either in pots or baskets, but in the latter shows to greater advantage when in bloom. It is a native of South America and was introduced in 1834.—H.

Cattleya Hardyanæ.—This really beautiful Orchid, supposed to be a natural hybrid between *C. gigas* and *C. Dowiana aurea*, is probably the most richly tinted of all, and I think I have never seen so beautiful a flower as one I have lately re-

placed, and the growths must be well consolidated in autumn by exposure to light and air.

Cattleya superba.—This fine species is again in flower, the plants having made a fine vigorous growth during this tropical summer. The large formal flowers bear 6 inches of a series of pretty orange-purple that is very bright and effective, the brightly tinted lip showing off the rest of the flower to great advantage. Although *C. superba* may occasionally be seen in good condition with other species in the Cattleya house, there is no doubt it likes more heat than the majority of the genus. It dislikes being overburdened with compost, so whatever is used as a receptacle for the roots must not be too large. If healthy, the plants like plenty of water while growing.

Zygopetalum maxillare.—Flowers of this quaint and yet beautiful Orchid come from a Somersetshire correspondent for a name. It is early for it to be in flower, but possibly the flowers are from a newly-imported plant that has not yet settled down to its proper season, if such there is. The flowers, six on a spike, are each

of this well-known kind are now in flower and considerable variation exists among them. The best of them will not, in my opinion, bear comparison with the better forms of *C. Moissae* or *C. Mendeli*.

but they are very useful after these kinds are past their best and before the autumn flowering *C. labata* begins to bloom. Most of the flowers are some shade of rose on the segments and all have a blotch of deep yellow in the throat. It is of the easiest culture, the flowers being produced on the newly-formed growth, and the plants should if possible be kept dormant after this occurs. C. Gaskelliana is a native of Venezuela, and was introduced by Messrs. Sander in 1883.

Oncidium reflexum.—I recently saw a plant in flower of this pretty little species which is not much grown. The blossoms are very showy and produced on erect branching scapes about 15 inches high. The sepals and petals are golden yellow, with spots and bars of crimson and brown, the lip much paler in colour, with a few bright red dots at the base. This species is of easy culture, growing well in pans of peat and moss over good drainage. It should be grown at the cool end of the Cattleya house and kept well up to the light, watered freely while in active growth, and rested during late autumn and winter.

Orchis pyramidalis.—This pretty native species is very plentiful here, the meadows and hedgerows being now quite gay with the bright rosy pink pyramidal spikes. In my early rambles for wild Orchids in another part of England this brightest of all native kinds I seldom met with, and even whole fields with the flowers ad. sick almost in Dorsetshire would have been nothing starting at that time. Although so common it is a charming plant for growing in large clumps on the herbaceous border or in the rock garden, and it is moreover, of the easiest culture. The great mistake made by most people who try their hand at this is taking the plant up when in bloom. The new tubers are at this time only about half formed, and to disturb them means their ruin. If a stick is put to some of the finest plants now they may be moved with perfect safety after the growth dies down; the tubers may then be taken without a lot of weeds and planted in bold masses about 4 inches apart. Any good loamy soil will grow them, but if preparing a compost for them use the top spit of an old meadow or the edgings of grass verges and add a little lime or chalk. A mulch of half decayed leaf mould will be of service the first season, both for protection during winter and as a means of retaining the moisture when dry weather sets in.—H. R., Bury St. Edmunds.

ODONTOGLOSSUM SCHLEIPERIANUM.
THE autumn and late summer-flowering forms of this genus are among the most showy and useful of Orchids, possessing the additional merit of being very easily grown. In fact, in many places where the crispum varieties are by no means satisfactory these plants grow and flower remarkably well. The above is often the first to bloom, and though lacking the showiness of *O. grande*, the flowers have a distinct and pleasing appearance either alone or grouped with other Orchids. In the typical form these are a pale greenish yellow with broad bands and blotches of light brown, and many variations from this type exist, some being almost entirely yellow, others having the markings nearly as deep as those of *O. grande*. I have found several kinds, those liking a moist atmosphere, are not so well accommodated by the drier conditions as are the kinds with which I have compared them, nor are they so fastidious in other respects. They will on this account be acceptable to amateurs and others not possessing an Orchid house proper, but wishing to grow a few in company with the ordinary greenhouse plants requiring a fairly humid atmosphere. The plants as received from the nurserymen should not require potting the first season at any rate, and it is unwise to disturb them unless they really need it. When necessary it should be done well, first removing all old and sour material from about the roots, afterwards replanting in selected peat used in as rough a condition as

possible, mixing with this a little fresh Sphagnum Moss and plenty of rough nodules of charcoal or crocks. The roots, being large and vigorous, like this extra rough medium, and show this by their free extension under the circumstances. Plants that have been several years in this country are usually fairly constant in their time of flowering, and no drying off of the plants is necessary. The young shoots come away in early spring, and must be closely watched in order to prevent the sticks of wood being pulled, which is very fond of the young succulent leaves and soon spoiling the appearance of a plant. Roots are not produced until these young growths have attained considerable size and commence to swell into bulbs, but the older roots below will be very active, and, therefore, the plants must be kept moist right up to and during the flowering period. The summer temperature should be kept low by shading and free ventilation, and during winter a minimum of 53° is ample, watering at the latter season being very carefully done. It is a very good subject for room decoration, lasting a long time in the rather dry atmosphere if kept moist at the root. *O. Schleiperianum* comes from considerable elevations in Costa Rica, whence it was introduced in 1856.

VANDA SANDERIANA.

WHEN this superb Vanda was first imported it naturally created considerable stir among Orchid growers, and many were at the time under the impression that a new race of Vandas had been introduced and that other large-flowering species would be imported. Unfortunately, up to the present this has not been the case, and the beautiful *V. Sanderiana* so far reigns supreme. As it has been often figured and described in various publications, the flowers may be said to be well known, but it is even now a scarce plant in collections and not so frequently seen as one could wish. Together with one or two others, Reichenbach places this plant in the genus *Esmeralda*, but as a *Vanda* it is best known. In habit the plant is erect and nearly so, the leaves deep green, each upwards of a foot in length on the stronger plants, recurved at the tips, and the racemes of flowers proceed from the axils of the leaves in the usual way. The beautiful large flat blossoms, at first sight appearing like those of a *Miltionia vittaria*, are found to vary considerably, but the typical form has the petals and the upper sepal rosy pink, with a few crimson dots more or less pronounced at the base, and a tinge of buff. The lower sepals are fawn coloured, overlaid thickly at the base with crimson veining that gradually fade as the margin is reached and the lip is small, purple or chocolate, and not showy, as is usual with other Vandas. Coming from the Philippines, the plants naturally like heat, but this can easily be overdone, and although the rate of progress may not be quite so quick, the consolidation of the leaves and general health of the plant will be better in a house such as suits the warmer Cattleyas and Lelias than in the East India house. By all means establish the plants in the latter, but let them when once they have got a good hold on their compost have more air and less heat, and the flowers will be more plentifully produced and the general health of the plant much better. It is of no use attempting to grow *Vanda Sanderiana* well in a large pot or in close, heavy compost. The roots must be able to breathe, so to speak, and should show themselves out above the compost, over the side of the pot or basket—everywhere in fact. They must be crowded together in the Moss, each one contending, as it were, with its neighbour for a place; then there will be growth and flowers in plenty. How to attain

this is the question that naturally arises, and one of the chief points is cleanliness. Should the plant require repotting or basketing, do it well, let every bit of decayed root and compost be removed, and if any fungus is present, have the whole of the roots, new and old, washed in tepid water. When placing in the new receptacle be careful that the new material is clean, the Sphagnum picked free of all foreign matter, and the green young portions only selected for use. Mix enough charcoal and potsherds with the latter to ensure the whole remaining sweet and in good condition. Plant them so that it is impossible for any rocking about to take place, and arrange the plants in a light, though shady position. Keep the atmosphere moist and mild by frequent dampings, but the foliage must not be heavily syringed. The roots will soon make headway, and then, as mentioned above, the health of the plant is secured.

Quite a distinct resting and growing season is required by *V. Sanderiana*, the growth commencing, as a rule, in March or April, and going on briskly through the summer months. Towards the end of the growing season the flower-spikes should show, and after the bloom is past the plants will stay down for the winter. This is perhaps the most important season of all, for unless the growth is first well ripened and has a good rest afterwards, no flowers, or but few, will be produced the coming season. It will thus be seen that no great difficulty exists in the culture of this fine plant; only get it well established and keep the growth firm and hard. *V. Sanderiana* was first sent home in 1881.

R.

Cattleya Eldorado.—The flowers of this Cattleya are very pretty and distinct, but not quite so large as those of most of the labiate section to which it belongs. In the typical form the sepals and petals are a pretty light rose, much cut, the lip broad and well opened, orange-yellow at the base, with a light margin and stain of deep purple in front. It is similar in habit to *C. Trianae* and others of this set, but not usually so vigorous and the foliage is shorter. The plants should be placed in medium-sized wood baskets, these being suspended from the roof in the warmest part of the Cattleya house. The best quality of peat only should be used in mixture with Sphagnum Moss, and a good supply of rough nodules of charcoal or crocks. In placing the plants in the baskets, be careful that the lower part of the pseudo-bulbs is not covered with compost and see that the plant is firmly fixed. During the time the plants are in active growth and until the flowers are past, keep the roots moist at all times, but when the growth is finished and no new roots begin to grow, the water supply must be diminished. *Eldorado* is now in flower, and is a native of the district about the Rio Negro. There are several named varieties of the plant, including the beautiful pure white *C. E. Wallisii* and *C. E. splendens*, a very fine variety with large and richly-coloured flowers.

Dendrobium Jenkinsi.—Though a small-growing species, the blossoms of this Dendrobium are as large as those of many of the larger habited kinds and rather distinctive in colour. The pseudo-bulbs somewhat resemble those of *D. aggregatum*, and, like those of that kind, grow very closely together. The plants have a very natural appearance when grown on a rough piece of wood, the bark being retained, a forked piece of Crab being as suitable as any. Failing this ordinary blocks split into pots for the sake of conserving moisture may be used, the roots not taking to layers of compost as a rule. They must be firmly fixed in the first place, or trouble will afterwards occur by their working loose, for though the roots cling tightly enough when they once get a hold,

they cannot do this if the plants are so lightly fixed as to be movable with the least disturbance. It is a heat-loving plant, being a native of some of the warmer parts of India, so should be grown in the hottest house and given plenty of atmospheric moisture till the pseudo-bulbs are complete. Sometimes it produces two sets of these in a year, but on the whole the plants are better when kept to their proper annual routine. The winter temperature must be considerably lower and the plants must be suspended in a light, sunny position. But few flowers are produced on a raceme, and these are bright yellow on the sepals and petals, a darker blotch occurring on the centre of the lip.

Schomburgkia tibicinis.—The genus to which this plant belongs is not thought much of by present-day Orchid growers, but this is perhaps as handsome a species as any. The flowers are produced on long slender stems that occur at the apex of the long hollow pseudo-bulbs from which the species takes its name. Each measures from 3 inches to 4 inches over, the sepals and petals oblong, pale purple outside, deeper within, the lip yellow, with veining of purple. In order to induce this species to bloom freely, the growth should be well ripened in autumn and the plants kept at rest during the winter months. While growing, the heat of the East India house is not too much for them, but in winter a minimum of 55° is ample. It comes from Honduras and was introduced in 1834.

Dendrobium Bensoniae.—A nice plant of this favourite Dendrobium is still in flower, and it is among the prettiest of the deciduous kinds at this season. The blossoms are freely produced upon the last season's pseudo-bulbs, which are erect and about 15 inches high. The sepals and petals are white, the lip white in ground colour marked with two blotches of dark maroon and a yellow throat. Plenty of heat and moisture and a clear bright light are necessary while this Orchid is making its growth, and when the terminal leaves have formed it may with advantage be placed outside by day in the full sun. It requires a long rest in a cool dry house—if suspended from the roof so much the better—and after all the foliage has fallen it must be kept quite dry till growth reappears. If by any means the bulbs are not well ripened this system of drying off entirely must not be practised, but it firm and hard, as they should be—and as they must be if they are to flower freely—no shrivelling will occur. Badly ripened plants need careful winter treatment, or in probability their growth will be cut weak. Some care is needed on account of the hairs up D. Bensoniae as a difficult plant to cultivate, but give the plants all the sun possible in autumn when the leaves are falling and keep the roots in as small pots or pans as they may conveniently be got into, and but little trouble will be found with it for a good many years after being imported.

BOOKS.

FRUIT GROWING.*

If we ultimately fail to grow sufficient hardy fruit to be quite independent of foreign supplies, it will not be want of advice. Most of the leading nurserymen have contributed books and manuals on the subject, and prize essays are equally numerous. Nearly all, however, were a little late in appearing on the scene. The advice given during the past five years would have been of far greater service if forthcoming from ten to twenty years ago, or before so many mistakes in planting had been made. Even now there is so much that is conflicting in the various works and essays on hardy fruit culture, that beginners become bewildered and undecided about what to plant, and end by making nearly as many mistakes as they would have done without studying the well-meant efforts of experts. Mr. B. Wells

is the latest to publish an essay on hardy fruit growing, and for the modest sum of one shilling a fair amount of sound advice is presented, and also much that could have been dispensed with in a little manual of that kind. Far too much is attempted, this including researches into ancient history, and, unless I am much mistaken, readers would have preferred less of this and more that is plainly instructive.

After reading all that Mr. Wells has to say on the subject, the conclusion I have arrived at is that he has done well to boldly declare himself and sole author of Apple culture, the entire exclusion of the more uncertain kinds of fruit. He opens with four chapters principally about Apple culture, and if, instead of merely touching briefly upon other hardy fruits, he had done full justice to the kind that he rightly places before all the rest, he would have had more space to devote to requisite cultural details, and in particular to the discussion of varieties suitable for various soils and positions. Mere generalisations are not what are wanted, and calling in the aid of a "trusty expert," or the other alternative, planting what are known to suit the district in which an orchard is to be formed, is a way out of the difficulty open to objections. Where is the novice to find the disinterested expert? or what if a trial of some of the newer and better varieties has not been made in his or her parts of the country? This is what passes for the best advice, and occurs in paragraph 3, pp. 12 and 13 :—

"There are a few plain laws that may be observed and made helpful. The first of which is that where good Oaks and Elms grow, such land may, as a rule, be relied upon to grow Apple trees. It is also good to observe that Apples grow fairly well there and what varieties do best in that locality. The knowledge of the varieties in contemplation is good. Some descriptive catalogues give a slight note of each suitable to them. Such cannot be given here on account of space. An examination of the subsoil by digging a number of holes about 2 feet deep in the land to be planted will disclose its nature. There are not many trees that grow in an extra-fine loam, and a heavy subsoil, a band of gravel in the place, a band of clay in another, and sometimes a streak of sand, all may be found in one field." It is well to know the position of these bands and streaks, which when known may serve as a guide to suitable selections. Some varieties do best on clay and some on drier soils, as gravelly or sandy subsoils. Cox's Orange and Lord Suffield will not grow on clay, especially if it is wet, while Gravenstein, Brown's Seedling and many others luxuriate in it. When the soil and habits of trees are known there is much more certainty of success by a judicious selection.

I repeat, why not have given this "judicious selection?" Perhaps Mr. Wells found that framing a selection for different soils an undertaking more easy to write about than to accomplish satisfactorily, but still the attempt ought to have been made. Are we to be content to take Mr. Wells' advice upon all other matters connected with Apple culture, and to turn to the works of other writers to learn what varieties to plant, or must the "trusty expert" come on the scene?

Credit must be given for the outspoken views of the profitable culture, or otherwise, of other kinds of hardy fruits and which are, I am afraid, not altogether wide of the mark. This is what is said of Pears :—

"Pears are much esteemed and sometimes very valuable, especially when scarce, but the reverse when plentiful. Some think supply regulates their market value more than is the case with some other fruits, because their quality is not so variable. They are a delicate fruit, because their habit is to blow so easily that they are so frequently cut off by frost. A good crop of Pears is not frequent, and then not of much value. The English climate is not usually favourable to Pears."

This is not encouraging to planters, and of Cherries we find it stated that

"Morello is a hardy tree, tender and weak, that most frequently injures the leaves and as to the blossoms, 10° of frost will frequently kill the bloom if it comes within a week before the blossoms are full out, the pistil will turn black long before the bloom opens;

it is then of no use at all. A more tender, so-called hardy fruit it is hard to find; 10 acres planted here is an object lesson; they are a rotten red.

Mr. Wells is less condemnatory of the Burren type, but considers birds unduly preserved render it next to impossible to grow them profitably. What he has to say about Plums will raise a smile on the faces of successful growers who have orchards not fifty miles north of London. Plums, so writes Mr. Wells, are

"all the rage with some growers, and are profitable sometimes, but chiefly when they are scarce. All know that when the crops are good they are scarcely worth gathering unless the grower can bottle them, which is an expensive operation for many tons; they are about the most risky crop grown."

The faint praise given to fruit bushes, as Raspberries, Gooseberries, or Black Currants alone, is equally murderous, while Red Currants, which some growers of my acquaintance have every reason to consider one of the most profitable of bush fruits, is completely omitted, this reminding me of the work of another writer on hardy fruit culture, he in common with Mr. Wells, having omitted all mention of that important market fruit, the Damson.

With the exception of the frontispiece, a two-year-old tree of Prince Bismarck Apple in fruit, the illustrations are uninteresting, and they are also too few in number. Up-to-date literature is fully illustrated, those responsible contriving to make the illustrations both interesting and instructive. Mr. Wells has depended too much upon his literary researches, and, in spite of his twenty-seven chapters, does not convey sufficient instruction to meet the requirements of either professional or amateur fruit growers. The remarks on storing Apples are more to the point, and that chapter is, in my opinion, the best in the book. In many paragraphs the book is almost impossible to know what Mr. Wells means, the English being so bad and the punctuation so loose.

W. I.

A TRAVELLER'S NOTES.*

THIS book is the record of a botanical tour made by the author through India, Malaya, Japan, Korea, the Australian colonies and New Zealand in the years 1891-93. All the great botanic and public gardens maintained by government in the countries enumerated were inspected by him, and he also visited many private horticultural establishments. The author, we venture to think, is perhaps mistaken in supposing that the book can have little interest except for horticulturists, as there is a great amount of valuable information contained in it. The illustrations, which are from photographs, are good, though not numerous and well chosen. It is a very interesting account of travel through some of the most beautiful parts of the world full of gardening interest, and is very spiritedly told and well illustrated.

THE DISTRICT COUNCILLOR'S HANDBOOK.†

THE offices of rural district councillor and guardian of the poor, although combined in one person, may be regarded as practically separate; and it is to the duties of district councillor acting other than as guardian of the poor that the author directs the inquirer. The book cannot but be of great use to district councillors and those whose business brings them into relation with district councils. It is written in a clear and concise manner, each chapter being subdivided so as to render reference to any particular matter easy. Chapter I. describes the office, qualifications and election of district councils; II., constitution of district councils; III.,

* "A Traveller's Notes" By James Herbert Veitch, F.L.S., F.R.H.S. James Veitch and Sons.

† "The District Councillor's Handbook" By J. C. Surnburn Hanham, of the Middle Temple, Barrister-at-Law. Shaw and Sons.

mode of election; IV., meetings and proceedings of district councillors; V., appointment and remuneration of officers; VI., highways; VII., sanitary powers; VIII., licensing powers and fair; IX., allotments; X., mode of defraying expenses in urban districts; XI., mode of defraying expenses in rural districts; XII., accounts and audit; XIII., contracts; XIV., acquisition of land; XV., borrowing powers; XVI., by-laws and notices; XVII., legal proceedings; XVIII., miscellaneous. For a volume of its size it is exceedingly comprehensive, and the various authorities are freely quoted. There is a table of statutes and a table of cases. The book is printed in clear type and strongly bound.

OS CHRYSANTHEMOS E A SUA CULTURA.*

The above is the title of a work recently received from Portugal, which shows that the popular flower is still making progress in the expected quarter. It is a large-sized paper-covered pamphlet of sixty pages, dealing with many subjects relating to the Chrysanthemum. Briefly stated, the author deals with history, classification, composts, manures and the various methods of propagation. Cultural treatment, comprising disbudding, large blooms, specimen plants, standards and other forms, with lists of suitable varieties, occupy the largest portion of the work, which concludes with a chapter on insect pests and diseases.

STOVE AND GREENHOUSE.

LILUM AURATUM MACRANTHUM FAILING.

I HEREWITH send you a bulb of this Lily which has been attacked with some disease. I shall be glad if you can throw any light on the cause. The treatment given has been as follows: The soil used was a mixture of loam, peat, leaf soil, and well-decomposed manure with silver sand. When the dried bulb was put into a 9-inch pot and placed in a cool house from which the frost was just excluded, water was used sparingly at first and the quantity gradually increased as the plants progressed in size. When the roots showed round the top of soil from the stems they were top-dressed. In about a fortnight or three weeks the leaves turned yellow and dropped off.—M. YOUNG.

* The plant of *Lilium auratum macranthum* sent is suffering from a disease which is very prevalent among all the forms of *Lilium auratum*. Various theories have been propounded as to the cause, and one accepted by many cultivators, myself among the number, is that it is a kind of sunstroke which affects the Lily in this way. This theory is borne out by the fact that it is as a rule first noticed on one side of the stem, while the roots are still sound and active, but so quickly does it spread, that frequently in a few hours a thriving specimen is transformed into but a wreck of its former self. The sunstroke idea is substantiated by the fact that when a bulb of this Lily is planted in a partially shaded position the plants are, as a rule, not nearly so much affected as in a sunny spot, but even where shade is there must be admitted some individuals are apt to go off in the same manner. This fact has led to a fungous being put forward as the cause of the trouble, but although spores may be found in plenty, yet they may be but a secondary, and not the primary cause of the trouble. The treatment given to the particular plant as detailed could not have been improved upon, and should have resulted in a grand display of bloom, but it must be borne in mind that with experienced cultivators in this country many plants go off before they flower. The mortality is more prevalent in excessively hot summers such as the present than

* "The Chrysanthemum e a sua Cultura." Por H. Capelo, Lisbon.

it is during a fairly cool season, and out of doors when showers and hot sunshine alternate with each other is the most fatal period of any. Keeping the roots as cool as possible and the tops from direct sunshine during the middle of the day, little can be done to combat this insidious disease, and it is very probable that, given the same treatment as that detailed in the letter, another season might yield highly satisfactory results.—H. P.

Callistemon Salignus.—The plant flowering at Kew under the above name is far more generally met with as *Metrosideros floribunda*, but I suppose the former is the correct name. There is certainly an element of doubt about the matter, for in the "Dictionary of Gardening" the flowers of *C. Salignus* are described as straw-coloured, and the season of blooming from June to August, whereas the specimen to which the specific name of *Salignus* is applied at Kew has the curious little-brush-like inflorescence of a bright scarlet colour, and though now in full bloom, I have seen the same species blooming freely during the dull days of December. It is really a very beautiful shrub, and one that may be induced to flower in a comparatively small state, but a good-sized bush it is the more effective. This Callistemon is a good representative of the class of plants once so popular in our gardens and now very rarely seen, while many of them are extremely difficult to obtain from nurseries.—H. P.

Gladioli in pots.—What a wonder it is that more of these are not grown in pots for autumn decoration, as it is just at a time when flowers are none too plentiful that the Gladioli makes such a brave show. Where vivid colour is desired, no variety is more suitable than the good old *brenchleyensis*, which, associated with greenery in the conservatory, has a most telling effect. The choice hybrids raised of recent years are also most elegant, the markings in some instances being marvellous. They are easily grown, a 6-inch pot accommodating one bulb, potted from March to May for succession and, plumping in ashes in a cold frame, exposing to air in fine frost-free weather, and entirely so after the end of April. If earliness is desired, they will stand the warmth of a sunny greenhouse, the remaining portion being allowed to come on quite naturally. A compost of three parts good holding loam and one part rotten manure suits them well.—J. C.

Eulalia japonica variegata.—Looking at the ornamental character of this fine grass, one cannot help thinking that it might be utilised for floral decorations much oftener than it is, as well-grown examples in pots are highly ornamental, especially when pots 10 inches and 12 inches are used and the plants well established in them. The variegation is so marked and the habit of growth so distinct from that of other plants used for the same purpose, that it always finds admirers, and when grown in a cool house it is available for early summer until autumn. I have found plants from 3 feet to 4 feet high very useful to associate with *Fuchsias*, zonal *Pelargoniums*, &c., forming groups in vestibules, front halls, and similar places. The plants give very little trouble; all they want is repotting once a year and moderate supplies of water, and then in active growth. It is a hardy plant, and therefore only requires sufficient protection during the winter to prevent the pots being injured by frost. I may also mention that this grass is much valued in a cut state for decorations, as there is a certain amount of gracefulness in the bearing of the stems when suitably arranged.—J. C. C.

The scarlet trumpet Honeysuckle (*Lonicera sempervirens*).—As a good climber for a greenhouse it is questionable if any will give more satisfaction than this Honeysuckle, though it is as a rule not generally employed for this purpose, probably owing to the fact that it is quite hardy in many localities. Under glass, however, and particularly in a medium sized structure, it is in every way satisfactory, as it will bloom, more or less, throughout the spring and

summer months. The flowers are of a beautiful scarlet on the outside and yellow within, while the distinct glaucous foliage is also very pleasing. Insect pests trouble it but very little, and planted out in a prepared border it will grow away freely. It is a native of a considerable tract of country in North America, and is one of our oldest climbers from that region, having been introduced in 1656.

Macleania punctata.—This is a very pretty greenhouse plant nearly related to the Thibaudia, and, like *T. acuminata*, it is of a loose, rambling habit, though it can scarcely be regarded as a climber. The long slender shoots are clothed with dark green oval-shaped leaves of leathery texture, while the flowers, which are borne on the upper part of the shoot, are each about 1½ inches long and tubular in shape, the major portion of the flowers being red, while just at the expanded mouth it is yellowish white. The blooms are of the thick waxy texture common to many of their allies, and they remain bright and fresh a considerable time. The genus Macleania consists of about a dozen species, all of which are natives of the Andes of America. *Thibaudia acuminata*, which is the best known of all this group, may frequently be met with in gardens. This plant, so long known as *Thibaudia*, is now regarded as Cavendishia acuminata, while a nearly allied genus is Procelaria. Some of these have the flower-clusters enclosed within large coloured bracts, which remain on for a considerable time after the flowers expand, and I am told by a traveller in the Andean region that some of them are brilliantly coloured and are then very striking. In this country these bracts are, as a rule, not particularly showy.—H. P.

GARDEN FLORA.

PLATE 1076.

STENOMESSON (COBURGIA) INCARNATUM AND CYRTANTHUS HUTTONI.

(WITH A COLOURED PLATE,*)

THE two plants figured to-day are among the hundreds of beautiful plants that have never come into general cultivation, and are never seen except at Kew and a few other botanical gardens. Fortunately for us—all those who love of plants extend beyond those that are merely showy or popular—Kew gives refuge to a multitude of beautiful and interesting plants that have been sent to us from all regions, often at great risk of life. By giving portraits of these so-called "botanical" plants THE GARDEN does good service, as it brings them under the notice of a wider range of readers than is reached by the *Botanical Magazine*, and thereby tends to make these rare plants more generally known, and probably induces some to cultivate them.

The two plants herewith figured are typical of a class of greenhouse bulbs that have come to us from the southern countries. The Stenomesson and others of its genus are from the Andes of Peru, Bolivia and Ecuador, and the Cyrtanthus from the rich flower region of South Africa; consequently their seasons of growth do not correspond with our long days and sunny weather, and from this cause no doubt they are not what we would term easily cultivated plants. However, as they flower at a season when greenhouse plants are most appreciated, they are well worth any exceptional care and attention that may be bestowed upon them.

The Stenomesson will, perhaps, be better known under its older name of Coburgia, the genus under which it and its allies were placed

* Drawn for THE GARDEN in the Royal Gardens, Kew, by H. G. Moon. Lithographed and printed by J. L. Gouffart, successor to Guillaume Sevres.



LISTENOMERON IN AFRICANUM
CYBANTHUS HUTTNERI

before Mr. Baker's revision of the order. There are only a few species in cultivation with several varieties—*S. incarnatum*, *luteo-viride*, *trichromum*, *coccineum*, and *suspensum*. Of these, *S. trichromum* was beautifully illustrated in colour in volume xxxvi. of THE GARDEN, and with it the Coburgias were described and cultural directions by the best authority on these plants, so that it is scarcely necessary to go into the subject again.

CYRANTHUS HUTTONI is a member of a small, but beautiful genus of Cape bulbs, all more or less rare in cultivation. In this genus also there has been some revision by Mr. Baker, though in the garden it only affects the genus *Gastronema*, best known by the beautiful species, *G. sanguineum*, and which was figured in vol. xxxvii. of THE GARDEN, accompanied by a full descriptive and cultural account by the same writer who described the Coburgias. It is a pity that these elegant species of *Cyrtanthus* have not been taken in hand in a more general way, for there are few more exquisite little plants than such as *C. McKenii*, *obliquus*, *lutescens*, *Macowanii*, and *angustifolius*, as well as the Vallota-like *C. coccineum* and its beautiful hybrid, *C. hybrida*. Years ago such plants used to be grown with great zest by amateurs, but now it seems they are refugees in botanical collections, as it is only in the gardens of such keen amateurs as Mr. Gumbleton that one hears of them. It is true that they are somewhat capricious under culture, but with care and attention they can be made to thrive and flower, and give much pleasure.

W. GOLDRING.

THE WEEK'S WORK.

FRUIT HOUSES.

MELONS.—The last batch of these ought now to be making headway, for though some gardeners defer planting till August, it is seldom that fruit produced from such plants so late in the season is of much value, being deficient in flavour. The plants should be encouraged to grow as fast as possible, but during such hot weather as we have been experiencing of late ventilation must be carefully attended to, as the temperature runs up considerably, and in such a heat, unless sufficient air be afforded, those newly planted do not make that progress so desirable. The points of the shoots are apt to be attacked with red rust, and when that happens it is seldom the plants make a sturdy growth afterwards. Where there are front lights it is well to admit a little air through them in the middle of the day when the weather is very hot, and a slight shade afforded till the roots have taken a thorough hold of the soil. Those just setting their fruit should be ventilated early in the morning that the pollen may be dry, otherwise a good set cannot be obtained. It is seldom that over-luxuriant plants set their fruit freely, therefore pay strict attention to this point. Avoid syringing as much as possible, as this is apt to make the foliage flimsy; but where it is actually necessary to keep down insects, more air should be afforded in the daytime to counteract its influence. Melons ripening ought to be kept on the dry side; the plants, however, should be examined two or three times a day when the weather is bright, in order that they may on no account be allowed to flag. A little water given at a time should be the rule, only sufficient to keep the plants healthy, and this before closing time, that the extra moisture may pass off. This has been a good summer for Melons in frames or on hotbeds, the bright sun being just the thing to maintain a high temperature, and so give the fruit flavour. Where plants in these are now in bloom, pay particular attention to them, that a good set may be had. It is a good plan to

place slates or tiles underneath the fruit, but do not expose them to the action of the sun, as that would be apt to scald them. During hot weather more water will be needed, but that supplied should at all times be of the same temperature as that of the air in the frame. Melons in these structures ripening their fruit ought to have a free circulation of air by admitting a little at the bottom, as well as the top of the lights.

VINES.—As before pointed out, span-roofed houses with long roofs and only a lifting ventilator need great care during such weather as that we have been experiencing of late, for in many instances, even when attention has been paid to opening the ventilators to their full extent, the temperature runs up considerably higher than is needed, and where the foliage is a little soft, scalding will be sure to take place. In such houses during the time the berries are swelling the borders should be damped down two or three times daily and all exposed surfaces thoroughly

not evaporated before the sun shines fully on them, scalding is often the result. Vines in cool houses and those growing against walls have made good progress of late; attention, however, must be given to their requirements if passable fruit is to be produced. In the case of the former see that the foliage is not overcrowded, and avoid cold draughts by regulating the ventilation according to the state of the weather. The house should be closed sufficiently early in the afternoon that the thermometer may run up a few degrees afterwards. Houses facing east ought to be shut up by 3 p.m., while those facing south or south-west should be allowed to remain open much longer, according to the state of the weather. Vines on walls, particularly those made of hard bricks, must be frequently examined, as such are warmer than porous stone, not retaining so much moisture, therefore red spider is more prevalent. This pest soon makes headway if left to itself, so that every precaution should be taken to keep it under, as the fruit cannot ripen properly when the foliage is disfigured. Those in pots intended for early forcing next season should on no account be allowed to get dry at the roots.

PINES.—It may be necessary to shade the houses in which these are growing during the hottest portion of the day, for though it is well to allow the plants to have sun as much as possible, those now in pots and otherwise not so well rooted might suffer if left exposed to its influence; therefore a strict watch should be kept over them. As blinds are not used for such houses, a little light shade of any kind will suffice to keep the scorching rays of the sun from damaging the foliage. Pay strict attention to watering and damping down, and above all to ventilating early, for much of the damage done to plants is owing to the temperature of the houses being allowed to run up too high, then putting on a lot of air to reduce it. If a little be admitted early when there is a prospect of a fine day, and gradually increased as that outside rises, there will be but little danger of any ill effects from scalding by the sun's rays.

FRUIT ROOM.—It is well to examine this structure at this time of the year, and if there are any repairs needed these should be carried out while the room remains unoccupied. It is well to give the walls a coat of lime-wash, as this will destroy any insects that may be lurking in the crevices. The shelves should also be dusted down and everything made tidy for the reception of the next crop

of fruit. See that the ventilators are made to shut properly, and if the windows are not fitted with shutters this ought also to receive attention, as fruit will keep much better in a dark, cool structure than in one into which the light is freely admitted.

H. C. PRINSEP.

KITCHEN GARDEN.

SPINACH.—Summer Spinach has had most unfavourable weather to contend with this year. The drought, combined with intense heat, has caused the plants in many gardens to run early to flower, and in some cases to turn yellow in their earliest stages of growth. It is in such seasons as this that the various substitutes for Spinach justify their existence, and of these by far the best liked here at this time of the year is Chicory, the thinnings of which have been utilised without waste. From now onwards the chances are that better conditions of growth will obtain, and



Cyrtanthus McKenii.

though any immediate sowing of Spinach should be confined, as before recommended, to a north east aspect where the soil is coolest, it will be safe to make a larger sowing now than has been advisable at any one time during the past few months. All danger from bolting is not, however, over, and to prevent this and to promote a good crop of fleshy leaves, it will be necessary to see that the ground is in good heart and that the seed drills, if not the whole area, have a thorough soaking of water before sowing. Newly-dug or disturbed ground should, if at all light, be well trodden over previous to and again after sowing. Well pulverised gypsum added to the soil previous to the drilling will have a strong influence for good on both the colour and the substance of the leaves, and I strongly recommend its use to all those who are troubled with fleshy-leaved Spinach. It is still too early to sow for the winter and early spring supply, and a good breadth of ground may be kept in hand for this, but the present sowing should provide the autumn supply and give also a few of the earliest winter pickings. Seed of the better class Spinach, such as the Victoria, Viorelay and Long-standing Prickly, is fairly cheap, so there is but little excuse for using the commoner forms which are so precious in running. Sow either of the above-named in rows 18 inches apart and thin to half that distance, singling the plants while quite young and thinning to the full distance allowed before the plants crowd each other; at the second thinning the surplus will be big enough for cooking, and should be used in that way to husband the permanent plants.

CELERY.—The earliest Celery will now be forward enough for earthing, and no delay must be allowed after this date if properly blanched hearts are wanted for salad early in September. There is always more or less danger of early Celery becoming pipy or bolting, but the tendency to both may be considerably reduced by seeing that the trenches are thoroughly well soaked before soil is placed to the plants; too much water cannot well be given, but it is easy to give too little. Celery is a moisture-loving plant, and when we consider that for six weeks at the very least the plants are finishing their growth under circumstances that practically place them beyond the reach of water, we can readily see how important it is to supply them fully while yet we may do so. Before applying soil, each plant should have a strip of matting tied round near the top; this will keep the leaves in position and prevent the soil from running into the hearts, and is preferable to having the plants held together by the hand. Remove all incipient sucker-like growth that may be in evidence at the base of each plant, and break down finely from the ridges sufficient soil to enclose the plants high enough so that whatever heart they may have developed, more than this should not be done at any time while growth is progressing, as the plants are easily crippled by a heavy weight of soil being placed round them too soon. In cases where blanched growth is urgently needed and the plants have not made the desired progress, or become sufficiently advanced to bear much soil round them, blanching may be assisted without crippling the growth by enclosing each plant in a strip of brown paper, tying this into position, but not too tightly. I only recommend this, however, in special cases, and should not think of serving the main crop in the same way unless worms and slugs are known to be very troublesome, as, to my thinking, no Celery is so sweet as that blanched in direct contact with the soil. Should there be any doubt as to the plants not having had enough water to carry them through, small drain pipes may be inserted here and there along the row in an almost upright position and with the lower ends at a level with the roots. Through these water may be given in a fairly satisfactory manner, provided the pipes are close enough together, but to depend wholly on giving a thorough soaking immediately before earthing. Finally, it is best only to earth up enough at one time to keep the supply good

for a week or ten days, and to follow up the work at such intervals rather than to do a large quantity at once, as feeding may go on in the meantime with that left undone. A little soil, say about 2 inches, may be run in round the base of the earliest main-crop plants, as this will encourage root action and give the leaf growth an upright tendency which is desirable. Keep the soil out of the plants, but pack it well up to them, as this will hold the leaves in position. Water as frequently and as copiously as may be.

CABBAGE.—I dealt with this crop a fortnight back, and recommended then the sowing of early varieties. The present is an excellent time for sowing main-crop varieties, and generally proves our best time for sowing here, though a fortnight later still may be recommended for early districts. This is one of the matters in which I am influenced by local custom and by the varieties chosen, of which I recommend now Mein's No. 1, Veitch's Main-crop, and Enfield Market. Should Red Cabbage be in request over a long period, a pinch of seed sown now will come in early, but I depend on spring-sown seed, as the hearts from this get quite large enough by the time they are wanted, which is not until we have had a touch of autumn frost. Webb's Vesuvius is a good selection of the Red Dutch, and forms solid hearts of first-rate colour.

PEAS.—Taking the weather we have had and its probable effect on late Peas into consideration it may be wise to sow on an early border in trenches prepared as advised earlier in the year new seed of such varieties as William Hurst and Chelsea Gem on the chance of a good growing time in autumn, allowing them to supplement pickings from recognised late varieties. My own practice, however, is to depend on the latter to supply the table up to Michaelmas, after which the supply becomes uncertain, to say the least of it, and I see no reason to fear a collapse this year. Such varieties as Autocrat, Chelmondo, and No Plus Ultra, looking well, and the only things needed to make the crop successful are plenty of water and good mulching. Seed sown now must be well fed from the first, as there is no time to waste even with quick-podding varieties grown from newly-harvested seed.

TURMIPS.—Before the end of the month a good breadth of Turnips must be sown, and this sowing will probably prove the most valuable of all, as the roots will have time to reach full size before winter. I dealt with this matter so recently, that need not again enter into details. The varieties I recommend are last noted on Turnips are also my favourites for sowing now, and again about the middle of August. Water the drills if dry, thin the young plants early and hurry them out of the seed leaf stage by the aid of any quick-acting manure that may be at hand.

GENERAL WORK.—Fill up all blanks that may have occurred among the plots of green stuff, looking carefully over Cauliflowers and Broccoli for blind plants. Throw together the material collected for making the first in-door Mushroom bed and see that it neither becomes overheated before being put into too dry, the latter being a fertile cause of failure in many cases; to the frequent caution given about running to the other extreme and getting it too wet. In adding water to the manure do it either with the syringe or through a very fine roseid water-pot, and avoid slopping too much in one place. Keep the hose going around any growing crops where possible, and especially among those things which are receiving frequent supplies of water without mulching.

J. C. TALLACK.

Itea virginica.—A pretty and useful flowering shrub from the Eastern United States, with dense spikes of white, slightly fragrant flowers, not unlike those of a *Veronica*; indeed, at the distance and before the foliage was seen it looked much like one of this race. Compact in habit, dwarf, and very freely flowered are points of merit that should commend it to lovers of these

plants. Near the large Palm house at Kew is a plant which appears not too well known in gardens at the present time.

FLOWER GARDEN.

FLAG IRISES IN THE GARDEN.

The year 1896 will be remembered for the great wealth of beauty produced by Iris germanica, and this has been well marked even with the great heat of the year, which, while bringing out the flowers in quick and rapid succession, has by no means taken away ought of their beauty. Indeed, the flowers seemingly revelled in the great heat and partial drought experienced this spring, and beyond this comes the welcome fact that the disease so troublesome in wet, cold seasons seems conspicuous by its absence. Even when the flowering is over the great sword-like blades in bold tufts are effective when seen in irregular groups in the garden, and it is very significant, too, the almost endless ways these plants may be grown, say from the window box for the town house to rustic vases and baskets in the garden; and, again, high up overhead, as suggested quite recently by Mr. F. W. Burbidge in *THE GARDEN*. Only a few weeks ago in a small garden near where I write I was struck by the distinct effect of these plants in baskets of rustic wood-work, with a hanging fringe of Canary Creeper about the sides. Raised and grouped in this way and out of flower, it struck me these Irises were as effective as Yuccas. Indeed, there is no end to the many and varying positions in which they may be placed and produce an effect of their own. But of all their uses there are few plants that tell to better advantage than these when arranged on a dry sloping bank, no matter how steep or how poor and stony the soil. In these places Irises are as happy as in any position in which they could appear in the garden. In the very early days of May some of the finest clumps of Iris have I ever seen were growing on a steep bank, the plants forming huge clusters between 3 feet and 4 feet across, and producing something like three dozen or forty spikes each; and to add that there were two or three dozen of these clumps is to merely give an idea of the effect such would produce. The little trouble such things give is really not worth naming if we compare the great wealth of flowers that follows, and if the blossoms are short-lived individually, they come in such profusion that we do not miss their going in the least.

CULTIVATION.

Perhaps one of the most effective ways of employing these plants in the garden would be on a sort of irregular bank, the plants arranged in bold tufts among the stones. The latter jutting out here and there in a naturally picturesque way would be very pleasing, and by its adoption, some out-of-the-way corner—hitherto disregarded it may be—could be made very pretty. With this arrangement a space of not less than 4 feet should be left for each clump; indeed, it may be made into a sort of Iris colony, when in the earliest spring such as pumila, obovata, nudicaulis, and the like may form a flowery fringe, to be presently continued and succeeded by the hosts of beautiful kinds this genus contains. Among them the graceful Siberian forms should also be found, as well as the giant orientalis. By a careful arrangement, such a spot would be attractive and interesting for a long time. On grassy, sloping banks and in the larger herbaceous borders such things can

always be made much of. For the latter they are especially well suited, and when left alone for a year or two, make, when in bloom, a fine display. In the matter of soils these Irises are by no means particular, since they grow and flourish in the majority that are to be found in gardens. Notwithstanding, they well repay deep digging, as also a moderate manuring prior to planting, and, given this at the start, they should be left alone for three or four years to become well established. One of the mistakes that are made in their culture is pulling them to pieces too frequently, and far more beautiful and effective are they in bold masses several feet across. Indeed, during the present season I have seen splendid examples of flavescent, stretching out its broad leafy blades to more than 4 feet wide and some forty or more fine spikes of its delicate yellow blossoms on each clump, closely pressing a dwelling-house wall where the soil would of a certainty be the reverse of rich. In fact, it is in such positions that a good deal of rubble and brickbats may be found, and their complete success lay in the fact that they were left quite alone—alone to stretch their great rhizomes on the hard gravel of an adjacent pathway. Though among the easiest plants to establish in the garden, the

BEST TIME FOR PLANTING

them is not nearly so frequently employed as it should be. In truth, you may transplant them ten months out of the twelve, though without securing bloom for the spring ensuing. Very often these Irises are planted during March and April, in common with many things, just as the growth of the season begins. Yet no one planting the usual sized plants of the nurseryman could reasonably expect flower in the May and June following the operation, even though large rhizomes were planted. Others, again, plant in autumn, and all such have to wait till March before many new roots are formed. But while I would not hesitate for convenience sake to plant these things at any time between March and September, both inclusive, I have the best reasons for believing that outside that period the plants are best left alone, and especially so those forms that apparently are widely removed from the germanica type. Many of these, particularly such as Victoria and others of its class, are more delicate in their rooting and constitution, and, being among the most beautiful, are worth greater consideration and care. For all such there is no better time for planting in the whole year than the moment their flowering is completed, and if done at this time, and having the advantage of a season's growth before them, good plants will result and flowering will be ensured another year. This my be new to many, but the fact remains, and it has long been known to specialists among these flowers and is well worthy of imitation among gardeners generally.

The time is therefore opportune for these remarks and also for carrying out the work, and those gardens now lacking a collection of these Flag or Bearded Irises need wait no longer. In the work itself there is little need for instruction, though it must be stated that the rhizomes or creeping root-stock of these plants should never be turned below the surface more than half an inch just to hold them in position. It is their nature to lift themselves out of the earth and send their roots deeply into it. Plant at once then and plant firmly, give a thorough watering at the moment, if possible, and a light mulch to retain the moisture will be all that is required.

E. J.

Carnation Grenadin.—I was pleased to see the appreciative note respecting this Carnation in

a late number of THE GARDEN. Blooming so early in the season, it is valuable for furnishing a supply of cut flowers before other varieties come in. I have this year during June cut a bushel or more of its bright Clove-scented flowers, and found them of the greatest service. My plan with this Carnation is to sow in July broadcast in frames rather thinly, allowing the seedlings to remain there until the following spring, just protecting them from very inclement weather, and planting out in well-stirred ground in March or early in April. These plants bloom to a certain extent in the following summer, and all singles can then be destroyed. In the autumn they can, if so desired, be transplanted, but I think they do better if allowed to remain undisturbed. The following year they are grand, each plant carrying a prodigious spread of blooms. They flower then in such profusion, that no grass is made and they mostly die out. By sowing a little seed every year, young plants are coming on to take the place of those that die out, and I do not know of an easier way than this of obtaining a quantity of fragrant flowers for cutting in early summer.—J. C., Byfleet.

Spiraea astilboidea.—In a recent issue of THE GARDEN, "W. S. Wilts," inquires as to how cultivators get on with this Spiraea after being grown the first year in pots. In the autumn of 1894 I obtained some clumps of this. These were potted into 6-inch pots and plunged in a cold frame; were brought forward gradually and blomed most satisfactorily in the spring. When the blossoms were over I had them plunged in the open, giving them a little water occasionally; this induced them to make fine growth. In the winter some of these were cut into three pieces and potted into 5-inch pots, while others were allowed to come on in a slight warmth and bloomed most satisfactorily.—JOHN CROOK.

The white Rocket.—In this we have one of the most useful and showy border plants for late spring or early summer blooming. For several weeks this has made a fine show in a mixed hardy plant border. Here it grows from 3 feet to 4 feet and gives long pyramidal spikes of bloom which I find most useful for filling long trumpet glasses. Rockets are often seen in a more vigorous condition in hedge and farmhouse gardens than in large gardens. This often arises from their being allowed to take up more natural growth after the blooming period. Nothing is more injurious to these, and many other hardy plants than cutting down the flower stems to the ground as soon as the blooming is over. By so doing the plant is weakened, as it is these stems and leaves that form good side shoots for next season's blooming. I have often noticed what few leaves these have below the flower shoot, and to cut them off in a green state is very unwise.—DORSET.

NOTES ON HARDY PLANTS.

Primula Reidi.—It is true that this is still a very scarce plant, but I venture to state emphatically that it is also a perfectly hardy and free-growing one. I make this statement from an experience of it of six years or nearly so, and all the time I have not only grown it in hardy conditions, but also flowered it freely. Until three years ago, however, when I mentioned the fact in these columns, I lost the seed, which is the more ready way of propagation, by leaving it too long on the plant, when it escaped. Since then I have taken the seed as soon as the capsule burst, sowing it a day or two later, and when it had a somewhat green and unripe appearance. Until the last few days, I always found it to germinate quickly, in fact the same summer, but I did not move the early seedlings. Last year's seeds did not grow until April, and when I have a nice panful. For this year's seed I had kept one plant, and that one plant is now in a seeding state. It is only fair to state that though it has stood the intense cold of 1894-5, I

always cover it with a sheet of glass to keep it dry in winter. The heritage is very late in showing for a Primula, the case of all except Rueby, but after the growth begins it pushes rapidly into its flowering state in mid-May; in fact, like other Indian species, the flowers come with the young leaves, and leaf growth is mainly made after the flowers are over. I have divided roots successfully many times, but division should only be done when the plant is active.

Acantholimon androsaceum.—For many years I have grown this beautiful plant, but it does not flower. I do not think I could admire the plant any more if it did, and yet the chief object of this note is to learn from anyone that may have bloomed it under what conditions the plant is being grown. I have nothing in the rock garden that is more beautiful in form and habit, and it is equally effective in winter as summer. The tufts of spiny foliage are composed of hundreds of small rosettes and so compact as to form a rigid grey-green cushion, which nothing in the way of pests seems to disfigure or disarrange.

Primula Poissoni is now coming into flower freely in the open, and in the past mild winter a cold frame was sufficient protection for this reputedly tender variety. I have not yet learnt from anyone that it has been tried fully exposed throughout the year, but it is yet a new or scarce plant. This, however, cannot long remain an excuse for not being tested, as plants are got in abundance from seed.

The Himalayan Edelweiss.—This in the latter half of June is only just beginning to flower in Yorkshire; it is a less white or silvery plant than the European form, but in other respects I cannot see that it differs.

Brachycome Sinclairi.—A good tuft of this in flower is most attractive; it creeps in a delightful manner along the narrow seams of soil between big stones, and once you get it well established in this way it will have to be a very hard winter that will kill it.

Veronica monticola.—Two years ago, when looking over a famed collection of hardy flowers, I stopped at this, struck by its neat, dwarf and shrubby character. I asked what it was; and if, like many other of the shrubby kinds, it was merely an evergreen or rarely flowering. I was told that it was worth all the others—a new kind, flowers deep purple, and plenty of them. It has not yet flowered with me, but it forms a lovely little shrub and seems fairly hardy.

Veronica Stewarti is another of the new dwarf shrubby kinds which I am growing, as the time for proving it has not been long enough. Considering the material I began with, it would be interesting to hear from any person who may have proved these Veronicas as to their blooming and hardy qualities.

Erigeron glaucus.—This is in considerable request. I do not know why, unless it is because it is so distinct. I have seen it form a rounded bush 1 yard in diameter and 1 foot high in a warm position. The disc of the heads is very large and of a distinct greenish yellow. The woody stems are apt to burst with severe frost until the plant gets a good covering of foliage, which is more or less persistent, so protecting the limbs of the plant. It was on a dry and sunny bank formed of stony loam, where I saw the finest plant.

Dianthus Atkinsoni.—This is now gloriously in bloom, once more grandly reasserting its hardy character and perennial duration. I know no plant that has been so much cried down and with so little cause. No one, however, denies that it is the richest coloured of all the single Pinks, but it is charged with being tender and biennial. Here it is certainly neither, and the one large plant has scores of flowers and hundreds of buds now. It is the same plant, in the same position, and not even layered, of the past five years. To compare its flowers to those of the mule Pink Napoleon III. for the rich shade of crimson is no mean honour, but it is distinctly superior in colour, and, what is

not generally the case, its single flowers last longer, both individually and in succession, than those of the double Napoleon III. Culturally I do nothing special for it, unless that I do for my choice things generally would be deemed special, viz., mulch annually with burnt clay.

Genista dalmatica — What a beautiful dwarf shrub (of a few inches) this is, but how little idea these words convey of its unique effect. It may be described as a pygmy Gorse or half Gorse and half Broom, the slender twigs being after the style of the Broom, the little glistening leaves, prickly, but not clustered like the prickles of the Gorse. It has the evergreen habit, dark and glossy; has been grown here about three years and seems happy in very sandy soil. It grows to a height of 4 feet 6 inches, habit semi-erect. The flowers, very numerous and almost orange-yellow, are produced in June. J. WOOD.

Woodville, Kirkstall.

EARLY GLADIOLI.

GLADIOLUS COLVILLEI ALBUS THE BRIDE is on all sides deservedly well known and appreciated, its ease of culture, purity of flower and the cheap rate at which the corms can now be purchased having all contributed towards its distribution. Few flowers surpass this Gladiolus as subjects for indoor decoration, the tall, chaste bloom-scapes lending themselves readily to artistic arrangement. In the south of England, where the soil is not unduly heavy and damp, the corms may be left in the ground all the year round. The clump figured in the accompanying illustration has now been untouched for four years. Some growers prefer, however, to lift the corms after the leafage has died down and to plant again in November. This plan has certainly the advantage of retarding growth until the spring, while the corms left in the ground will often by Christmas have thrown up leaves 1 foot or more in height, which are injured badly by severe frost. When planted, a mulch of leaf-mould or some other light material should be given, as newly-planted corms require more protection from the frost than do those that have been undisturbed for a length of time. Early Gladioli are grown well in the Channel Islands, and in the early summer large sheaves may be seen in the Guernsey market associated with Ixias, Sparaxis and other Cape flowers. Amongst the best of the early Gladioli are delicatissima, Blushing Bride and Salmon Queen, respectively white, flesh-coloured and salmon, with darker markings; ardens, insignis and Prince Albert, different shades of red or dark pink, the two former with darker and the latter with white markings. There is, besides, a large number of named varieties which are well worthy of culture. Those belonging to the nanus section are generally from a fortnight to three weeks earlier in blooming than those obtained by hybridising from G. ramosus. S. W. F.

PRIMULA SIEBOLDII.

THE plants of the varieties of this charming Japanese Primrose need close attention at this season of the year, because many persons who attempt to grow them are apt to neglect them during the summer months. They can be managed with comparative ease if only a little necessary attention be afforded them. They are now losing their leaves—at any rate those plants which have bloomed in pots—and as soon as they are well out of bloom they should occupy a cold frame or else be stood upon an ash bed in a cool shady spot, such as underneath a north wall. In such a position they will do well if they can be occasionally watered, giving them enough to keep the rhizomes plump. Allowing the soil

about them to become dry is to cause the roots to shrivel, and dry rot is more to be feared than wet rot. Indeed, the summer rains may fall upon the plants, but in the case of heavy storms it is well to shelter them from a very heavy rainfall; hence the advantage of having them in a cold frame so that a light can be slipped over them when needed. When the plants are neglected and suffer from drought, red spider infests them, but occasional sprinklings overhead will assist to keep this pest under.

As far as my own experience has gone, very little seed has matured this season, as during the time the plants were in bloom the atmosphere was hot and dry, and then P. Sieboldii is a somewhat disappointing plant in this respect, for it will often happen that the pods plump up and appear full of seed grains, but when they are opened they are empty. The surest way of getting seed is by cross-fertilization. I have this

GOLD-LACED POLYANTHUS.
I AM now lifting, dividing, and replanting seedlings which gave fine heads of bloom and produced a good crop of seeds. Circumstances necessitated that in the autumn of last year I should plant some 400 seedlings, most of which had bloomed last spring twelve months in light, dry, stony ground, but it is surprising how deeply they rooted, as if descending to find the coolness and moisture denied them on the surface. Despite the drought the growth was strong and the heads of bloom excellent. They are going from the stony ground into a good loam, and should they be favoured with a shower or two after planting, the plants will grow into fine stuff by autumn. It is remarkable how well generally this section of Polyanthus has done this season, dry and hot as the later spring-time proved. When I was visiting Mr. J. James, of Woodside, Farnham Royal, who has one of the finest strains of gold-laced



Gladiolus Colvillei The Bride. From a photograph sent by
Mr. S. W. Fitzherbert, Torquay.

season bloomed some seedlings in which I have endeavoured to get a greater depth of colour approaching blue than has yet been secured. I have been aiming also at securing flatter flowers with stouter segments, and the corollas less drooping than are seen in some of the varieties. There is ample room for improvement, as we have by no means made the advance with P. Sieboldii we ought considering the time it has been in cultivation in this country.

Those who attempt to raise seedlings need to exercise the quality of patience. Even seeds sown as soon as sowed take a year or more to germinate, and then the seedlings appear at intervals. This is what the Rev. F. D. Horner would term a "primulaceous habit," and it is one which attends the seedling *Auriculae* of good blood. In both cases it not infrequently happens that the laggards possess the finer characteristics when the seedlings have become strong enough to flower. R. D.

Polyanthus in the kingdom. I was struck with the vigour of his plants and their wealth of bloom. They were occupying a north border, but the position was a dry one. Among them were several of a highly promising character, and two good red ground—really red, and not partly red, as one too often sees them—were equal to any named varieties I have seen. Mr. James will submit these and other selected ones to another season's trial to test the persistency of their good points.

The gold-laced Polyanthus is a difficult plant to cultivate in pots, and many fail, scarcely one that does not. I made an experiment this summer with some selected seedlings, potting up a number as soon as they began to flower and planting the remainder in a well-prepared bed. Of the former, despite the closest attention, I scarcely saved one. The latter did well and gave me a little seed of extra quality. Should the gold-laced Polyanthus find its way back into the schedule of prizes of the

National Auricula and Primula Society, from which it should never have been withdrawn, exhibitors must perform depend upon plants grown in the open, but transferred to pots for the exhibition table. It is growing a few in pots and depending upon them to be in bloom at a certain time which has caused their absence from the exhibitions of the National Primula Society.

It is generally admitted that the old named varieties being few have lost much of their original constitutional vigour from being so severely propagated to supply stock. We must therefore look to seedlings for the rehabilitation of constitutional vigour in the section, and it is well to know that some are at work in this section. It is by the cross-fertilisation of the finest types, whether named varieties or seedlings, that substantial gain can be looked for. Finely marked seedlings, if not quite up to one's ideal, may produce improvements. It is this hope which gives force to the efforts of the connoisseurs for improvement.

With the obtaining of good seed, let it be sown in autumn or as soon as gathered in pans placed in a cold frame, or if this cannot be done, in some warmth as early in the year as possible. Then with attention there will be a wealth of seedlings to prick off into boxes in April and May preparatory to being planted out in the open during dripping weather in July.

R. D.

Lilium dorum japonicum.—The nomenclature of this Lily is as puzzling as ever, for the two groups as Kew bearing the above name which were alluded to in THE GARDEN, page 31, consist entirely of the *Lilium* growing largely in Japan, sent to this country under the name of *Lilium Brownii*. Now this is the true *Lilium odorum* or *L. odoratum japonicum*, the question that suggests itself is, What is the correct name of the Lily which we receive largely from Japan as *L. odorum*, or sometimes as *L. japonicum Colchesteri*? This Lily is certainly quite distinct in many well-marked features from the *Lilium Brownii* of gardens. A coloured plate of the *Lilium odorum* as grown in this country was given in THE GARDEN, vol. 29, under the name of *L. japonicum*.—H. P.

Anemones, late flowering.—Last season I noted that roots of *Anemone fulgens* might be kept in a cool store room and planted as late as the month of May or even June with every chance of a good supply of bloom during July and August. At the present time plants from roots so planted are throwing up a capital lot of their brilliant and attractive flowers, which are found most useful for vase work, after the heavy rains and parching winds have spoiled many of the outside flowers. They are not particular as to soil or situation, any spare strip in the kitchen garden partially shaded by fruit trees suiting them well. Not that they will not stand a sunny border, only in such a position the blooms do not last so long. The lovely *Aldboro'* Anemones, which are at present rather scarce and expensive, much resemble *Anemone fulgens*, but are much larger and of stouter substance, having a clearly defined white ring in the centre. I had some cut flowers in my own room last spring for fully three weeks, their freshness being preserved by an occasional change of water. The popular giant French Poppy Anemones will also bloom most freely in July and August if treated in the same manner as *fulgens* in regard to planting. This cannot be said of many bulbous plants, as if not planted in autumn or winter they shrivel beyond recovery.—J. CRAWFORD.

Iris orientalis.—Referring to your note in the last column of p. 475 on this name, it is a pity that there should be any ambiguity about the name of that grand garden plant *Iris ochroleuca*. There is an excellent portrait of *I. ochroleuca* in Curtis's *Botanical Magazine*, tab. 61, and the letter-press belonging to it is worth referring to. It will be observed that *Carolina* is given by Miller as the specific, but it does not seem ever to have grown wild in Europe, and was found by E. Boissier (see "Flora Orientalis," vol. v., p. 129) in marshes to the west of Smyrna, in this respect

justifying Miller's name *orientalis*. However, the plant is now almost universally known as *I. ochroleuca*, *I. gigantea* being a synonym; *I. orientalis* is a name more generally given to *I. sibirica* var. *orientalis*, which is very distinct from the type of *sibirica*, having larger and bluer flowers, less freely produced, and red-brown spathes to the buds, the last being a conspicuous feature. It is also lower in stature than the type. Lately in Mr. G. Wilson's Iris meadow at Wisley I saw hundreds of seedlings in flower, presenting every gradation of variety between the type *sibirica* and var. *orientalis*. Some of these exactly corresponded with a variety I raised from seed sent me by Mr. W. Thompson, of Ipswich, as *I. coreana*. My chief object in this note is to prevent confusion between *I. orientalis* (Miller) and *I. sibirica* var. *orientalis*, in speaking of which the specific name is generally omitted. —C. WOLLEY-DOD, Edge Hall, Malpas.

THE MADONNA LILY.

(LILIUM CANDIDUM.)

DESPITE the fact that we are passing through a season that will long be remembered for its great heat and long-continued drought, the disease in the above *Lilium* appears very considerable. For some years past I have watched with interest this particular *Lilium* in many gardens, in some of which an acre or more has been under cultivation, and I have endeavoured to discover in what degree soils, manured or otherwise, also seasons, influence the spread of the disease; but the more one looks for a well-defined cause, the more conflicting becomes the evidence. A long border with a dozen or two clusters of these Lilies, such as I recently saw in the gardens at Claremont, and where aspect being the same the plants receive apparently identical treatment and conditions, bears this out, as in scarcely any two instances were the clumps alike affected. In some instances, indeed, the clump was but little disfigured, while another scarcely a couple of yards off was badly affected. Again, at Kew, where this *Lilium* is employed by the thousand, the results are very similar. And it is in cases such as these that the whole matter becomes more and more puzzling. I have cited these two instances because soil and situation are so widely different in each, and yet in each the disease appears and in much the same proportion. More than once has it been stated that this disease is the outcome of wet and cold springs, but this year the spring weather has been noteworthy for heat and drought. But while the disease is undoubtedly present this year, it is, so far as I have seen, by no means attended with such disastrous results as in some previous years. I have noticed, too, more than ever before that the disease in many instances does not reach to the ground level, but about 6 inches from it, attacking all the larger leaves in its upward ascent. It is not so in all cases, but more frequently so than formerly. In some instances at Kew I noted the plants were all but free from its attack, and I have since wondered whether any portion of the bulbs was freshly planted last autumn. The position of Kew Gardens and their proximity to the river are so different from the high and dry gardens at Claremont, with its beautiful surroundings, that one would hardly expect to find the disease in about the same degree. The Kew Gardens are low and flat, and those of Claremont considerably elevated, beautifully undulated, and presenting a free and open view for miles around. In the worst cases I have seen, however, there is no absolute failure of the crop of bloom, but rather a reduction of the size of blossom individually, as also of the number of blooms

on each stem. In many instances around Shanklin and Ventnor in the middle of June this *Lily* associated with the *Eunomus* was flowering beautifully. The association of the two was very suggestive, and the purity of the *Lily* blossoms was greatly enhanced thereby, while the exceeding freshness alone was remarkable. I carefully looked for disease in the *Lily* leaves, but saw no trace of it whatever.

Some two years ago I stated in THE GARDEN that I had secured a few bulbs from a badly diseased stock of this *Lily* to try the result of a thorough drying in full sun. This was given, and the bulbs when planted much shrivelled. During 1895 growth was very weak, but this season the majority have flowered well and are quite free from disease. The stock from which these came in 1894 was early ruined by the disease, and, in consequence, only small, weakly bulbs resulted. It is in this way that the market grower often suffers for two seasons through the disease of one year. In cold and wet summers, or when thunder or hailstorms are frequent, the disease not unfrequently gets the upper hand and spoils the crop of bloom entirely, while in dry, hot seasons like 1896 cases of absolute failure are rare, though the blossoms are usually less in number and much inferior in size. I am, however, fully convinced that the baking process—i.e., laying the bulbs on a hard gravel path or similar place for six weeks or so, with full exposure to the sun—is a partial check to a disease that greatly mars the beauty of what in its healthiest and best form is still one of the most beautiful plants of the garden. It may possibly be of service generally to horticulture were the Kew authorities to make a trial of this drying process and report thereon at a future time.

E. J.

A pleasing combination.—Now that the glorious wealth of blooms of Cherries and Laburnums, Crabs and Thorns, and the dazzling glory of Rhododendrons, Azaleas, &c., is over, other flowering shrubs, less showy and bright, become more prominent, both individually and in association with each other and their surroundings. Among these, *Cotula arboreascens*, *Deutzia candidissima* fl. pl., *Rhus Cotinus* and *Spiraea ariaefolia* in association form a pleasing combination, for all are in bloom together, are dissimilar in form of leafage and inflorescence, and the flowers of a different colour, but each light and elegant, and nothing glaring about any of them. Nice groups of each of this quartette, separate, at a considerable distance apart on a prominent position visible from the garden, and producing as present objects of peculiar beauty and pleasure a fine effect, each gaining by association with its neighbour. The two last named are known to everyone and grown in most collections, but the two first are, I fear, less known, although both are well worth including in any collection of early summer-flowering shrubs. Perhaps I may be allowed to strike a note of warning in respect to this subject to show that it is equally possible to destroy this harmonious effect by the employment of two or more different plants in association, and will note an instance of such occurring here, and to which I plead guilty as the culprit, and which must inevitably stand as strong evidence against me for years to come. To connect two kitchen gardens, a tolerably long rustic archway was constructed. This is now fairly well covered with *Fuchsia Riccartoni*, in the planting of which I introduced at intervals some roots of *Tropaeolum speciosum*. Both have done well, and as the *Tropaeolum* is not killed down to the ground every year, it comes into bloom much before the *Fuchsias*, and its brilliant festoons form a lovely picture. There is no cessation in its blooming when the *Fuchsias* come into flower, and both keep on together until cut down by frost,

and it is here where the unsuitability of the association comes in, for the brilliancy of the Tropeolum palea the colour of the pendent bells of the Fuchsias—the primary object of the archway—into washiness and insignificance, and it must perform remain so for some time, as it will be almost impossible to eradicate the Tropeolum from among the Fuchsias, besides being a sacrifice of a valuable and beautiful climber. This has been an object lesson to me to use caution and foresight in associating various plants together, however good they may be individually, and I find I have yet a lot to learn in this phase of planting, and probably some more may have as well, hence this confession and word of caution.—J. R.

TREES AND SHRUBS.

CUPRESSUS NUTKAENSIS.

(*THUJA* *OPÍSS* *BOREALIS*)

The Nootka Sound Cypress is one of the hardest and most valuable of all the cultivated species. It was discovered by Archibald Menzies (famous as the introducer of *Araucaria imbricata*) in 1794, when he was acting as naturalist during Vancouver's voyage. As its name denotes, it is a native of Nootka Sound, besides other localities on the north-west coast of North America. It was not introduced to Britain till about 1850, coming then by way of the St. Petersburg Botanic Garden. The species is nearly allied to, and resembles, Lawson's Cypress, but it has not shown the same extreme tendency to vary under cultivation. There are, however, half a dozen or more varieties, one of the best and most distinct of which is here figured. In the region of Nootka Sound this Cypress reaches a height of from 80 feet to 100 feet. According to the "Report of the Conifer Conference," the largest tree in Britain is growing at Murthly, in Perthshire, and was five years ago 50 feet high. It is of robust habit and has coarser foliage than most of the forms of Lawson's Cypress, and differs also in having the male catkins pale yellow instead of red. Of its cultivation little need be said. It thrives well in almost all parts of the kingdom provided it has a fairly good and moist soil. As a timber tree in Britain it is very promising. Professor Sargent says that its wood is probably unsurpassed in beauty for cabinet work by any other North American tree. It can be increased by means of cuttings. The following are the chief varieties in cultivation:

C. N. PENDULA.—A very distinct and handsome weeping variety, the main branches of which stand out horizontally from the erect stem, but have an upward curve near the ends, the secondary shoots hanging from them almost perpendicularly in two rows. It is one of the most effective of weeping conifers.

C. N. COMPACTA is a form of dwarf bushy habit with slighter branches than the type.

C. N. NIDIFLICA.—A variety sent out by Messrs. Rovelli, of Palianza, Italy, about six years ago, with plume-like branches.

C. N. GLAUCA is a fine variety of rather more vigorous habit than the type, but otherwise only differing in the more distinctly glaucous colour of its foliage.

C. N. ARGENTEO-VARIEGATA differs little, if at all, from the plants sent out as albo-variegata or variegata; many of the tips of the shoots are creamy-white.

C. N. AUREO-VIRIDIS is marked like the preceding, but the colour is a deeper, more golden-yellow.

C. N. LUTEA.—Of all the coloured varieties of this Cypress, this is the handsomest and most distinct. It first appeared in catalogues some six or seven years ago, and the largest specimen at Kew is now about 9 feet high. It is as hardy as the type and

quite as vigorous a grower, and the bright yellow of its young shoots (not merely confined to the tips, as in the preceding variety) give it a most effective appearance. With age the shoots gradually become green. This, glauca and pendula are the most desirable of the varieties of the Nootka Cypress.—W. J. B.

Lord Annesley, who kindly sent the photo from which the illustration was prepared, sends us the following description of the tree figured:—

This handsome conifer, only sent out within the past few years, will be a decided acquisition to the

CLIMBERS ON TREES.

An increased amount of attention has been directed within the last few years to the charming effects produced by some climbers when allowed to ramble into and festoon neighbouring trees. Various notes on the subject have from time to time appeared in THE GARDEN, the most recent being on p. 27, and in it the difficulty which frequently occurs of inducing the climber to grow away freely is there dwelt upon. This is indeed a difficulty at times, for in the case of large old-established trees the climber has a hard task to establish itself, and by no means infre-



Cupressus nootkaensis lutea. From a photograph sent by Lord Annesley, Castlewellan, Co. Down.

coloured Cypress. Although not of such a brilliant yellow as *C. Lawsoniana lutes*, the habit is more graceful and the tree a more vigorous grower. The specimen the photograph was taken from is 8 feet in height with a circumference of branches 15 feet. Transplanted in the middle of May this year, it has already made 8 inches of a new leader. It is by far the quickest grower of any of the yellow-foliated conifers that I know.

quently fails in the attempt. Thus, while some of these combinations have been, when in a flourishing state described as happy, there are others which are the reverse, the weaker plant having too great a struggle for mere existence. The practice generally adopted of treating these strong-growing ligneous climbers, which are intended to mount up as quickly as possible, is to plant them near the trunk of the tree to which they are secured. This has one very decided

drawback, and that is the difficulty in inducing them to flourish, for the base of a large tree is about as unfavourable a spot as one could find for the growth of young plants. Ivy, of course, will grow in this way, but the beautiful flowering climbers to which light is essential get not only too little of this, but the soil at the base of a tree is unfavourable for them, being completely exhausted, and if a portion of soil is removed and replaced with a better compost the roots of the tree at once take possession of it, and the newly-planted climber is really little better off than if this had not been done. One way of obviating this is to plant the climber or climbers outside the radius of the branches and allow them to mount upward by means of a friendly branch. Of course, such a method as this can only be carried out where the branches sweep the ground, or are in close proximity thereto, but where it can be managed the rate of growth will be far more rapid. When away from the trunk a little good soil may be used to plant the climber, without much danger of the roots of the tree taking the nourishment from it, as will happen when it is close to the trunk. Again, many people regard trees and shrubs of all kinds as requiring only to be planted, and not one atom of trouble is taken about them afterwards. Many of them, however, well repay any little extra care and attention, and this particularly applies to climbing plants which are intended to mount upward quickly, for the rate of growth is greatly accelerated by watering when necessary, with occasionally an additional dose of liquid manure. The choice of subjects available for such a purpose is very great, and plants of different vigour may be chosen according to the size of the tree that is intended for their support. Roses at once suggest themselves as affording almost endless variety, and some of the strong growing single-flowered kinds are particularly charming. Many different forms of Clematis, too, are equally valuable for this purpose, one of the best being our own native Traveller's Joy (*Clematis Vitalba*), while among other British plants which may be sometimes seen in a state of nature draping a tree exactly as one would wish to see them when planted artificially, are the Honey-suckles, favourites of everyone. *Wistaria sinensis* will soon mount up into a large tree, and when in flower is a grand object. *Passiflora coriacea*, too, in sheltered situations is just the thing for such a purpose, while the common Hop possesses a quiet beauty of its own. The above are all remarkable for their blossoms, and others, of which I claim notice, either on account of their foliage. Of these there is the Virginian Creeper, so universally acknowledged as furnishing one of the brightest autumn features to be found among hardy climbers, while several of its immediate allies are very fine when similarly treated. Among the best are the large-leaved North American Vines, which grow freely and soon cover a considerable space. A charming illustration of one species—*Vitis californica*—clothing some huge trees is given in vol. 38 of THE GARDEN, page 143. Of other large leaved plants a word must be spared the Dutchman's Pipe (*Aristolochia Siphon*), whose large leaves are very ornamental.

showy a plant as the other. The double pink form first alluded to will if required form a decidedly ornamental isolated specimen, if about three stout stakes are driven firmly into the ground and the shoots secured thereto. After this they may be allowed to grow at will, when a dense mass with the branches arranged in a very informal manner will be the result.—T.

The Black Broom (*Cytisus nigricans*).—The specific name of this *Cytisus* is said to have been derived from the plant turning black in drying, certainly in a growing state there is nothing black about it. If stopped occasionally when young it forms a freely branched bush, that reaches a height of a yard or more, whose slender stems are clothed with trifoliate leaves, and terminated by a spike of bright yellow flowers of a hue distinct from that of any of its allies. In hot dry soils a bed of this species forms a very attractive feature from June almost till the autumn. It is a native of Central Europe, from whence it was introduced in 1730, and is thoroughly hardy. If a bed is planted with this species, one of the dwarf-growing kinds may be employed for under-planting. A very suitable one is the double-flowered form of the common *Genista tinctoria*, which blooms with great freedom and for a considerable time. A coloured plate of this Broom was given in THE GARDEN of August 27, 1887, p. 177. T.

Itea virginica.—This little shrub—a near ally of the Escallonia—is very seldom met with, and still more rarely in a thriving condition, as where the soil is at all hot and dry it fails to grow freely. After seeing it in this plight, I was agreeably surprised to meet with a bed of it at the back of the Palm house at Kew, in which not only were the plants—little bushes of 18 inches or 2 feet in height—in the best of health, but also profusely laden with blossoms. The flowers are small, whitish, and arranged in simple racemes. True, they cannot be regarded as showy, but seen in quantity, as at Kew, they are decidedly pretty and attractive. The general appearance of this Itea when in flower suggests one of the Pepper Bushes (*Clethra*), but even the earliest blossoms of these latter are not yet expanded. While this Itea finds a congenial home in one of the sun beds at Kew where the sub-soil is cool and moist, in many gardens, it is true, a suitable spot could not be found for it. Conditions favourable to many of the smaller ericaceous plants will suit it perfectly. Flowering, as this Itea does, during the month of July, when so many of our hardy flowering shrubs are over, it is thus additionally welcome.—H. P.

ROSE GARDEN.

ROSES AT THE CRYSTAL PALACE.

The show at the Crystal Palace was probably one of the worst exhibitions the National Rose Society banner had. Undoubtedly the season is to blame for this, and only Roses of good substance and boldness could withstand the ordeal of such a trying time as we have encountered. The number of flowers staged for competition—irrespective of those shown as bunches, garden Roses, or in designs—was about 5250, and out of this number about 2000 were Teas and Noisettes—ample proof of the increasing popularity of this charming class. Taking the Hybrid Perpetuals first, the favourite of the day and the Rose shown in the best form was that grand variety, Mrs. John Laing, nearly 300 blossoms of it being staged. Following at a considerable distance was Alfred Colomb, this being represented by 170 specimens. Her Majesty, Ulrich Brunner, Merveille du Lyon, Alfred K. Williams and Susanne Marie Rodocanachi were the next favourites, these five superb kinds following Alfred Colomb rather closely, as from 100 to 130 of each were considered worthy of a place in the exhibition boxes. La France, Baroness Rothschild, Marie Baumann, Horace Vernet, Earl of Dufferin, Fisher Holmes, Marchioness of Londonderry and Mrs. Sharman-Crawford were about equally repre-

sented, with from seventy to ninety specimens each. The two last being new varieties, and exhibited so frequently on this occasion, was sufficient proof that the good opinion formed of them at the time of their introduction had in no way diminished. From forty to sixty flowers each were put up of Caroline Testout, Mme. G. Luizet, Marchioness of Dufferin, Captain Hayward, Dupuy Janain, Louis Van Houtte, E. V. Teas, Etienne Levet, Auguste Rigord, Vicomte Hippolyte de Wellington, Prince Arthur, Mme. Marie Verdier, and Charles Lefebvre. Three other meritorious new varieties were well shown in about the same quantity as the last mentioned kinds, namely, Duke of Fife, Helen Keller, and Marchioness of Downshire, all rapidly growing in favour as good exhibition varieties. Only from twenty to thirty blooms of each of the following varieties were exhibited, namely, Margaret Dickson, Charles Darwin, Comte Rainbeau, Beauty of Waltham, Duchesse de Morry, Abel Carrère, Mme. Eugène Verdier, Duke of Wellington, Baron de Bonstetten, Duke of Connaught, John S. Mill, Duchess of Bedford, Xavier Olivo, Camille Bernardin, Mlle. Marie Rady, Reynolds' Hole, Exposition de Brie, Baronne Haussmann, Jeannie Dickson, Comtesse de Ludre, Captain Christy, Mlle. Maria Finger, Le Havre, General Jacqueminot, Prince C. de Rohan, and Mrs. W. J. Grant, a Rose of superb form and colour, but lacking in substance. Many of the above old favourites are usually met with in greater numbers, but this season has told on them very considerably. Of new or recent Hybrid Perpetuals and Hybrid Teas, a few fine blooms were noticed of Spenser, and Mrs. E. Cant. Possibly in a cooler season these will be better exhibited than they were on this occasion. It will be seen in comparing the above figures that a great work is to be done for us in order to produce Roses of the type of Mrs. John Laing in all shades of colour and same habit of growth that will stand the vicissitudes of such a season as the present one. All other Hybrid Perpetuals not noted above were shown in very small numbers if not at all.

Of the Tea Roses, the most popular varieties were Catherine Mermet, Comtesse de Nadaillac, The Bride, Innocente Pirola, Mme. Cusin, Niphotos, and Maman Cochet; from 100 to 130 of each were exhibited. Certainly the Tea Rose of the season is Maman Cochet. It is superb, and the extent to which it has been exhibited only serves to show that if a Rose is good it quickly takes hold of the public. I could not help thinking when I saw the grand bloom of this variety in Mr. Orpen's box that it was a pity our National Rose Society could not see their way to award their gold medal to worthy new varieties, such as this and Kaiserin Augusta Victoria, even if they were not of British origin. Other fine Teas and Noisettes exhibited were Marie Van Houtte, Mme. Hoste, Ernest Metz, Souvenir de S. A. Prince, Mme. Caroline Kuster, Kaiserin Augusta Victoria, Princess of Wales, and Souvenir d'un Ami, from fifty to eighty blooms of each kind being staged, and from twenty to forty each of Miss Ethel Brownlow, Anna Olivier, Frédéric Kruger, Souvenir d'Elise Vardon, Marché Niel, Rubens' Alba rosea, Jean Dutcher, Mme. Lambard, Lady Mary Fitzwilliam, Mrs. James Wilson, Bridesmaid, and Comtesse de Païs.

Of newer varieties of Teas, Medea and Sylph were very beautiful and will undoubtedly become popular exhibition Roses; and of the varieties not in commerce, I liked the appearance of Leinster, Miss E. Richardson, and Mrs. E. Mawley, and no doubt when the raisers possess a larger stock these Roses will be seen much finer than they were on this occasion. Muriel Grahame was very disappointing, the general opinion being that it was not sufficiently distinct from The Bride.

PHILOMEL.

Two beautiful white Roses.—Among the numerous white Roses none is more lovely than Mme. François Pétiet. It is a variety of the

Boule de Neige type, but the flower is globular; whereas Boule de Neige is flat and Camellia-like. The peculiar beauty of Mme. E. Utter is its buds. When about the size of marbles the buds are of a deep purplish red colour, and when an expanded flower is seen in its snowy whiteness surrounded by five or six of these coloured buds the contrast is effective and striking. I prefer this variety to Boule de Neige as being less likely to come malformed. It makes an ideal garden Rose, exceedingly free flowering, and of fine erect vigorous habit. Mme. Fanny de Forest is the other variety that should be in everyone's garden. For a Noisette Perpetual it is large—indeed, much larger than Louise Darzens and such kinds. It is of a beautiful shape and generally of a pure white; now and then just a suspicion of pink can be seen. It is not so rampant as most varieties of its class, but it is very free flowering. It is the very best white variety to cultivate as a pot plant.—1.

Rose Wm. Allen Richardson.—This useful Rose is much in evidence around Woking. It seems to do well either as a standard or trained against a wall. One handsome specimen budded on a tall Briar is particularly noticeable, its long pendulous branches being literally covered with blossoms. There, too, is the true to the tradition the shade of pink colour, not the less of the qualities of this popular flower, is deeper than seen on any planted against dwellings. It may be the sun causes a want of colour in such hot positions as the latter. Anyway, the blooms of this Rose are generally unusually light this season.

Rose l'Ideal.—This remarkable Rose is unique in the number of tints of its flowers; yellow and metallic red predominate, these being variable in different localities and seasons. Like Wm. Allen Richardson, it belongs to the Noisette or cluster-flowering class. In other respects, too, it favours the charming Rose named, and should be planted to be trained against a wall or grown as a standard. Although l'Ideal was raised as far back as 1887, it is far from common, and one rarely meets a large plant of it.—S.

Rose Margaret Dickson.—I do not think the value of this as a garden Rose has been fully appreciated. Here, in the west of England, it is so hardy and such a vigorous grower, that it makes a splendid pillar Rose, and I should not hesitate to grow it as a climber if the height of the wall did not exceed 10 feet. I do not say that it will cover space so quickly as the ordinary climbing Roses, because it does not show its vigorous habit until it has been planted three or four years, but after that it will in good soil make shoots 10 feet long in one season. We have none too many pillar or climbing Roses of the colour of Margaret Dickson, and none perhaps in which the centre of the flower is so pleasingly toned down from white to pale flesh colour as in this instance. The freedom with which cuttings inserted in the open ground in October develop into plants at another point in their favour which cannot be too widely known. And I should imagine it would make a good pot Rose for forcing, especially if plants on their own roots were selected. Its large and handsome leaves will enable it to endure greater changes in climatic conditions than many weak growers can bear.—J. C. Franklin.

SHORT NOTES.—ROSES.

Rose La France.—This fine Rose has had a long and variable life. It is essentially a late season Rose, and in a degree one of the light-coloured roses. It has some strong leaves, but little pruning. It then flowers with great freedom, the flowers being of a larger size than when the growth is too much pruned.—S.

Rose Viscountess Folkestone.—What a name for a Rose! It is one of the earliest and well known, existing in the various colour shades. It has 12 to 15 petals, and is sweetly scented. The growth is free but branching rather than rampant, and it is therefore suited for climbing. It makes a lovely bush or standard.—H.

SOCIETIES AND EXHIBITIONS.

NATIONAL CARNATION AND PICOTEE SOCIETY (SOUTHERN SECTION).

CRYSTAL PALACE, JULY 22.

Had the season, instead of being hot and very dry, been characterised by some of the cooling shower weather we associates with July, there is no doubt but that the Carnation bloom of the season would have been superb, for the plants promised finely, and growers were looking forward to a head of bloom and a southern Carnation show which would probably have established a record. But it was not to be so. Days of tropical heat, with an almost entire absence of rain and a very dry atmosphere, brought on the flowers rapidly, and the petals almost commenced to fade ere they were fully developed. Against such a combination no art or plan of the grower could hope to prevail, and the annual exhibition of the Southern Society on the 22nd inst. had to be characterised by an absence of that excellent quality of blossom witnessed at this corresponding period last year. And yet there was no lack of flowers; there were the usual boxes of bizarre flakes, Picotees, selfs, and fancies, and the beautiful yellow grounds, now increasing with such remarkable rapidity. There were dining tables decorated with Carnation blooms, epergnes and vases with the blooms, also an admixture of appropriate foliage; there were many a button-hole, plants in pots, etc., exemplifying many methods by which the Carnation can be utilised for decoration. There were refined types for the florist, and border Carnations in abundance for those who grow them and love to see them in their gardens, and there were admirers for all. The florist cannot control the weather; he has to make the best of it, and though many of the blooms fell below the quality which he wishes to see, he is by no means discouraged. Perhaps it may be found necessary in the future to have an earlier fixture. A week would make a great deal of difference, and the middle of June would be found suitable for the bulk of the southern cultivators.

There were seven collections of twenty-four blooms in not less than twelve dissimilar varieties, and here the first prize fell to the lot of Mr. Robert Sydenham, Birmingham, a midland grower who is in the front rank of cultivators. He had very good blooms for the season of Lord Salisbury, Geo. Melville, Thalia, Wm. Skirving, Gordon Lewis, Mrs. Rowan, J. D. Hextall, a very old variety, Guardsman, Mrs. Burges, Robert Houlgrave, Agricola, Edith Annie, and duplicates of the foregoing, which represent some of the best varieties in cultivation. Messrs. Thomson and Co., nurserymen, Sparkhill, Birmingham, were placed second. They had, differing from the foregoing, Arline, Sportsman, Cristi-galli, C. H. Herbert, Flamingo, R. Bealey, Jas. Douglas, and Joe Crossland. Mr. Martin Rowan, Manor Road, Clapham, took the third prize, and four others were awarded. There were also exhibitors of twelve blooming. Jas. Edwards, Blackheath, Manchester, taking the first prize with well-marked examples of J. S. Hedderley, Evan Edwards, new, very bright in colour; Gordon Lewis, Othello, Mrs. Rowan, Harmony, Sportsman, Stanley, Master Fred, Robert Houlgrave, Squire Llewelyn, and Admiral Corzon. Mr. A. R. Brown, Handsworth, was awarded the second prize, and Mr. J. Brocklehurst, Moston, Manchester, the third, others being also awarded. With six blooms, Mr. A. Greenfield, Sutton, was first, and Mr. T. E. Henwood, of Reading, second, only three exhibitors competing in this class. The striking self Carnations make showy and bright patches of colour, and, like the yellow grounds, they increase with great rapidity. The best twenty-four in not less than twelve varieties came from Mr. C. Bick, gardener to Mr. Martin R. Smith, Hayes, Kent, who had mainly new varieties generally of fine quality, yet not so fine in appearance as they

otherwise would have been had atmospheric conditions been more favourable. Such varieties as Salisbury, Beacon, Banner, Warrior, Romeo, and Prince Charlie were crimson and scarlet shades; Sappho, Mrs. Gascoigne, Winifred, and Regalia, shades of rose; Dalkeith and Cinnammon, buff; Gilda and Britannia, yellow; and of a blush tint, Hildegrave, very beautiful, Her Grace and Abney; white, Lady Ridley. Mr. James Douglas, Bookham, Surrey, was second, chief among his being Zadoc, Mrs. Eric Hambray, Diana, Duke of Orleans, Eudoxia, Miss Ellen Terry, and seedlings. Mr. John Walker, Thame, Oxon, was third. There were six stands of twelve varieties. Mr. A. R. Brown, Handsworth, Birmingham, was first, with Eudoxia, Mrs. E. Hembro', Britannia, Mephisto, Germania, Brav Lass, Lady Ridley, &c. Mr. Joe Edwards was second, and Mr. R. Sydenham third. There were twelve exhibitors of six selves, showing the advantage of offering eight prizes. Here Mr. T. E. Henwood was placed first with Her Grace, white; Lord Wantage, a yellowself; Germania, Mephisto, Lady Ridley, and seedling. Mr. C. Phillips, Bracknell, was second, and Mr. J. Brocklehurst third. Even more attractive still were the fancies, which include some types not otherwise classic, such as the various bicolours, half-blown and even tri-coloured, and also many on the border land of yellow grounds. Here Mrs. Martin R. Smith was first, with some really magnificent varieties, such as Roland, Perseus, Vashti, Eldorado, Nasby, Flamma, Lorna Doone, Roland, Nestor, Leopold, Regent, Carina, President Carnot, Melba, Khedive, Oliver, Figaro, Dalgetty, Hidalgo, very distinct, bright pale yellow ground flaked on the edge with crimson and maroon; Aurecla, Bertie, The Baron, and Evening Star. Mr. J. Douglas was second, mainly with seedlings of a promising character, and Mr. J. Walker third. Messrs. Thomson and Co. were first with twelve blooms, chief among them Mrs. A. Tate, George Cruikshank, Mrs. W. Spencer, Almira, Janira, Monarch, Cardinal Wolsey, and The Dey; second Mr. A. J. Saunders, gardener to Viscountess Chewton, Cobham, Surrey. Next came specimen Carnations in small blooms, the best scarlet bizarres being R. Houlgrave and C. H. Herbert; crimson bizarres, J. S. Hedderley and Master Fred; pink and purple bizarres, William Skirving took all the prizes; purple flakes, Gordon Lewis, Charles Henwood and James Douglas; scarlet flakes, Sportsman and Guardsman; rose flakes, Mrs. Gunn, Mrs. Rowan and Thalia; self white, Mrs. Lee very fine, and Rose; rose or pink, Mrs. Dalton and Middlefield; scarlet and crimson seedlings; maroon or purple, Mancunian, a very fine maroon self; yellow, Germaine; and buff, Mrs. C. W. Sharpen and Per-simmon. The best fancy flowers appeared to be seedlings.

The premier bizarre Carnation was J. S. Hedderley, shown by Mr. J. Edwards; the premier flower, Sportsman, shown by Messrs. Thomson and Co.; the premier self, Germania, yellow, shown by Mr. A. W. Jones; and the premier fancy, Mr. R. Smith's Hidalgo. Next came classes for bizarres, flakes, self, and fancies shown without cards or dressing. These were shown in boxes and each bloom was backed with a spray of Carnation foliage. Mr. Dalton, Chichester, had the best twelve flakes and bizarres, and Mr. G. Chaundy, Oxford, the best six. Mr. Dalton also had the best twelve selves and fancies, and Mr. V. Charrington the best six.

PIECES.

The delicate edged Picotees were also very attractive, alternating with narrow and broad edges of colour on the petal margins, and in shades of purple, red, rose and scarlet. They are lovely flowers. For twenty-four blooms not less than twelve varieties, Mr. R. Sydenham was again first, having Lady Louisa, Lena, Ganymede, Mrs. Kingston, Mrs. Wilson, Jessie, Little Phil, Nellie, Thomas, William, Muriel, Mrs. Payne, Esther, Mrs. Gorton, Favourite, Mrs. Openshaw, and others in very good character for the season. Mr. A. W. Jones was second, having several of

the foregoing varieties; and Messrs. Thomson and Co. third. With twelve blooms, Mr. J. Edwards was first, Mr. A. R. Brown second, and Mr. C. Simonite third. With six blooms, Mr. C. Hardin, A. S. H. Dover, was first, Mr. T. E. Henwood second, and Mr. T. Anstiss, Brill, third. Then came the beautiful yellow grounds, and here Mr. R. Sydenham added to his honour by taking the first prize with twelve blooms, having Ladas, Mrs. Gooden, Florrie Henwood, Agnes Chambers, Countess of Jersey, Mrs. R. Sydenham, Mrs. Douglas, &c.; second, Mr. M. R. Smith who had Voltaire, May Queen, Golden Eagle, Professor, His Excellency, Fortune, Mohican, Dervish, Mrs. Tremayne, and Hygeia. Messrs. Thomson and Co. were third, they having a highly promising seedling yellow ground, unnamed. The best six yellow grounds came from Mr. A. W. Jones, who had Mrs. Gooden, Countess of Jersey, Mrs. R. Sydenham, Mrs. Douglas, Ladas, and President Carnot, all standard varieties. Mr. A. R. Brown was second, with much the same varieties, and Mr. H. W. Weguelin, Teignmouth, third. In the classes for the single blooms of Picotees, the best heavy red-edged flowers were Brunetta, John Smith and Isabella Laken; light red, Thomas William and Mrs. Gorton; heavy purple, Polly Brasil and Memorial; light purple, Mrs. Kingston and Elizabeth; heavy rose, Little Phil and Campanini; light rose, Rosalie Sydenham and Mr. Deaf; heavy scarlet, Scarlet Queen and Mrs. Sharp; light scarlet, Mrs. Goggie and Favourite; the best yellow grounds, Mrs. S. R. Sydenham and Mr. E. C. Sharpin's Alice Mills. Picotees, both white and yellow grounds, were also shown without dressing and cards, each with a spray of foliage, and it must be admitted they added but little to the attractiveness or interest of the show. A few good blooms were shown, but the larger proportion were small and rough, and not nearly so good in many instances as one sometimes sees in the baskets of the flower girls at the Royal Exchange. The society appears to have a handsome balance in hand, and they get rid of some of their surplus cash in this way. The yellow grounds were better than the white ground Picotees and were more attractive. There was also a class for six Carnations and Picotees for those who have never won a prize, Mr. A. Campbell, gardener to Mr. F. W. Campion, Reigate, proving a leading pizzicato. There was a class also for two cut blooms of seedlings cut from the plants previously exhibited. All the dozen shown were unnamed, and the class revealed nothing specially good. A good number of certificates were awarded to seedling Carnations, of these some descriptive notes shall appear later.

Plants in pots were also shown, and classes for these afford some information as to the habit of growth. With twelve specimens, Mr. Martin R. Smith took the first prize, Mr. C. Turner being second and Mr. J. Douglas third, both with good plants bearing flowers past their best. The best specimen Carnation in the pot was Paragon, a large yellow self. Mr. M. V. Charrington was awarded the second prize. The best group of Carnation plants (filling a space of 50 feet) came from Mr. Martin R. Smith, consisting of seventy plants or so, all very finely grown and bloomed. Mr. C. Turner was second with some excellent plants. The best group (filling a space of 30 feet) came from Mr. Douglas; Mr. E. Charrington, Chislehurst, was second.

Floral decorations consisted of a table arranged as for twelve persons, the decoration to consist of Carnation and Picotee blooms only with any foliage. Mr. C. Blisk was placed first out of eight competitors, having in the centre an epergne, with side vases, using fine bright Carnation blooms and the bright green foliage of Asparagus plumosus with Smilax, &c. The second prize went to Miss Jackson, Upper Norwood, we are bound to say to the surprise of many, as these were simply three crowded low heaps of flowers and foliage as formal in appearance as could well be imagined. Mr. F. W. Seale, nurseryman, Sevenoaks, was third. Mr. J. Douglas had the best vase of Carnations; Mr. C. Hardin was second,

Mr. Blisk secured the first prize for three sprays of Carnations, and Mr. F. W. Seale the second, Mr. J. R. Chard being third. A lot of button-hole Carnations was also shown. The Martin Smith prizes for Carnations from the open border brought as usual a good competition. The best bunch of a self coloured Carnation was the brilliant scarlet Jim Smyth, from Mr. H. G. Smyth, Drury Lane. Mr. A. J. Sanders came second with an unnamed white self, and Mr. P. L. Bourne, Hollingsbury, was third with a promising large pale scarlet self. The best six bunches of self border Carnations came from Mr. H. W. Weguelin. Mr. A. Spurling, Blackheath, was second, and Mr. A. J. Sanders third. Mr. Weguelin also had the best nine bunches. Mr. J. Douglas was second, and Mr. M. V. Charrington was third; in both classes the flowers were unnamed.

In the way of miscellaneous exhibits, Mr. J. Douglas had a table of bunches of new varieties of Carnations he is sending out. Mr. T. S. Ware, Hale Farm Nurseries, had a large number of bunches of Carnations set up with Gypsophila paniculata, also bunches of Pentstemons, &c., a large and imposing bank.

Royal Horticultural Society.—The next meeting of the fruit, floral and Orchid committees will take place on Tuesday, July 28, in the Drill Hall, James Street, Victoria Street, at 12 noon. A 3 p.m. a lecture on "Cacti" will be given by Mr. E. H. Chapman, F.R.H.S.

Chester horticultural show and fete.—The Duke of Westminster, K.G., will preside on the occasion of the conference to be held in the Chester Town Hall on August 4 next. Sir Trevor Lawrence, Bart., the Dean of Rochester, and Mr. F. W. Burbidge, M.A., F.L.S., surely constitute an array sufficient to attract the least enthusiastic follower of horticulture. There should not be a vacant seat in the hall, and we trust the meeting will be as successful as it certainly deserves to be.

NOTES OF THE WEEK.

Platycodon grandiflorum Mariesii.—At the last meeting of the R.H.S. Mr. Prichard had some very fine bunches of this excellent dark flowered kind. The intense deep violet-blue flowers attracted many admirers.

Carnation Kettew Rose.—This appears to be a capital variety generally out-of-doors, where it has endured the great heat and drought much better than many other kinds that could be named. Its freedom of flowering and colour make it most desirable.

Erigeron philadelphicus.—This pretty species produces an astonishing number of its rosy Daisy-like flowers that render it a pleasing plant in the rock garden or near the margin of the border. The plant is only a foot high and is effective for a long time.

Rudbeckia californica.—This species is now in bloom. It is a capital plant in the front of shrubbery borders, making a distinct show in large groups. The clear yellow ray florets are rather thinly disposed, while the cone-shaped disc is of large size and quite distinct.

Lilium chalcedonicum.—This is now among the finest of the Lilies in the open air, and appears to be doing remarkably well this year, its spikes of rich vermillion-scarlet making a fine display. When used judiciously among dark-leaved evergreen shrubs the effect is striking in the extreme.

Carnation Bendigo.—This is not a blue Carnation, though its violet-purple, self-coloured flowers are a distinct approach to such. In a mass it makes a most striking display. We recently saw this excellent kind, which was raised by Mr. Martin R. Smith in the collection of Mr. Douglas at Bookham.

Chrysanthemum Flora.—That this is a summer-flowering variety there is no doubt what-

ever, since it has been producing its masses of light golden flowers for some time past. In this respect it is useful, and being dwarf as well as a most continuous bloomer, renders it a favourite with quite a large number.

Chrysanthemum Mauricio Prichard.—This is doubtless the largest of the leucanthemum section of these perennials in so far as the flowers are concerned, these being each fully 4 inches across. The plant is free flowering, but inclines to a somewhat coarse appearance, judging by some large plants of it at Kew.

Native plants.—It is curious how Nature has apparently reasserted herself in the half acre of land which has so long lain waste in Whitehall. It is now a waving mass of purple Willow Herb in full bloom, interspersed with comparatively tall Bracken Fern, with several shrubs and brambles growing freely amongst them.—J. R. DROOP, Reigate.

Platycodon grandiflorum pallidiflorum.—This is also known by the varietal name of album; the flowers, however, are not white, but white suffused with pale blue. The plant flowers very freely, and is therefore a most desirable border perennial and one that is quite distinct from a large majority of hardy perennials in habit, foliage and flower.

Lilium auratum.—Numerous grand clumps of this Lily among the Rhododendrons in the Royal Gardens at Kew are making a fine show. Some of the earliest blooms have been expanded some time, but, owing to the profusion of buds as well as the various positions the groups occupy, there still remains a goodly show of large hand-some flowers.

Carnation Winifred.—This is a border kind and a novelty of striking worth. We recently saw a fine lot of it in Mr. Douglas's nursery at Bookham, in colour rich apricot, flowers very full, compact and well formed, with a perfect calyx. In height it is considerably less than 2 feet, and, judging by the masses of bloom, it will make a splendid kind for the flower garden.

Spiraea venusta.—This is one of the handsomest species of the genus flowering at the present time, and the graceful masses of its rose-pink flowers are very showy. Like all the race, a cool spot with root moisture is what is needed to make it a success, and given this it attains to a luxuriance and freedom of flowering which are surprising in the extreme.

Pterocarya caucasica.—Some very fine fruiting branches of this rare deciduous tree were sent from Claremont to the last meeting of the R.H.S. We recently saw this tree in the gardens at Claremont, which was then covered with its pendulous spikes of fruit, that render it extremely interesting. The tree is a very old one, having a spread of branches that extend to 100 feet or more.

Mutisia decurrens.—Few hardy climbers can equal this when in good condition, though it is rarely so seen. We were reminded of it by a small plant with three or four of its orange blooms in the group of flowering shrubs staged by Messrs. Veitch at the Drill Hall recently. Judging by its rarity, the plant is difficult to establish in the open, a fact to be much regretted.

Romneya Coulteri at Torquay.—A few days ago I saw this lovely plant in full flower in the gardens of Mrs. F. J. Rawson, Bramhope, Torquay. It was bearing upwards of fourteen fully developed flowers, with more to open. It is the finest specimen I have seen. Planted outdoors in a south border fully exposed to the sun it seemed quite at home. This plant fully deserves extended cultivation.—W.

Lilium speciosum Melampomae.—At the last meeting of the R.H.S. a small group of this handsome form was exhibited. It, however, appears to come very close to *L. s. cruentum*. Both kinds are very fine, and possess flowers that are in each case heavily streaked with a blood-crimson hue. For the open border among shrubs and other things these Lilies make a fine display, but the flowers are yet a long way from being

open, as the above had been brought forward in a heated structure.

Enothera speciosa.—Few plants are more profuse flowering than the *Enotheras*, while this species is among the best of that number. The flowers are very large, sometimes nearly white and at others flushed with a rosy or lilac hue. The plant is of perfectly easy culture and in some soils spreads too freely, but where the space of a yard can be given it, a very fine mass of flowers is the result.

Lilium concolor.—A dainty species from China of rather frail growth, the slender stems rising to little more than 12 inches high, and terminated by rather small flowers of a blue-lilac hue. The species is best grown in pots in a freely drained mixture consisting of peat, loam, sand, and charcoal in equal parts. It needs comparatively little moisture at the root save for about two months in summer.

Gaillardia maxima.—The flowers of this variety are of great size, upwards of 4 inches across, while the yellow colour renders it most conspicuous. Such masses of colour demand for cutting, are more useful in the border than for cutting, unless it be for very large vases. Many of the smaller flowered kinds are of much value as cut flowers, particularly the clear yellow self kinds, and where these have a disc of the same colour.

Hollyhocks in Regent's Park.—There is a charming effect of these in the mixed border in Regent's Park—a bold and pretty thought well carried out. The Hollyhocks are scattered over the border, and in certain lights it is one of the prettiest effects in the garden which one should expect from this well-managed garden—certainly the best in London, although not in all parts well laid out as to plan, which should be improved here and there to make it worthy of such good and thoughtful gardening.

Gallica officinalis alba.—An excellent free-flowering border perennial that is capable of enduring a good deal of drought with impunity. Some capital specimens of it and also the type with lilac-blue flowers have been flowering for some time with the greatest freedom. The white kind is specially suited for cutting, as it provides foliage almost equal to Fern and quite as graceful and elegant. Both kinds should be grown where large supplies of cut flowers are required, as they keep up a profusion of blossoms for a long period.

Tufted Pansies.—A correspondent writes: "The article on the above interested me much. Two or three years ago I strongly supported the incorrect term of 'Viola' applied to the hybrids, but I have seen so much of the confusion caused, and been asked hundreds of times, what is the difference being a Pansy and a Viola that, as I told Mr. Cuthbertson, of Rothsay, only a short time ago, my mind is continually getting more open on the subject. Mr. Cuthbertson and I are of opinion that the nomenclature of these hybrids will form a leading subject for discussion in 1897."

Rhus Cotinus (Venetian) Sumach.—There is to be seen just now at Luddington House, Stroud, Surrey, a fine bush of the above over 63 feet in circumference and of considerable height. Had it not been very much curtailed in consequence of its being planted too near the carriage drive, it would have been very much larger. I had this beautiful shrub in fine feather at Envile, where it used to be greatly admired, but I never saw one so beautifully coloured and densely flowered as the above. Why it is not more planted seems a mystery, for it is one of the most elegant shrubs we possess. There are also to be seen there two fine Judas trees and an immense evergreen Oak.—EDWARD BENNETT, Queen's Road, Egham.

Alpine Poppies.—In the spring of 1895 I sowed a quantity of the seed of these lovely little flowers, and was rewarded with a plentiful crop of plants which flowered all through the summer and autumn in great profusion. The flowers varied from pure white, through all shades of yellow, orange, and orange-red, and occasionally

there were beautiful blooms of true rose colour. I sowed plenty of seed, and this spring sowed it in Celery boxes, afterwards prickling out on to the rock-work, and the success has even exceeded that of last year. The foliage is as pretty as the flowers, and, considering how very easy those Poppies are to cultivate, I wonder that more use is not made of them.—H.

Campanula isophylla alba.—The earliest blossoms of this charming variety opened on the 20th inst., and by its dense masses of flower buds promises a fine display for weeks to come. For the rock garden, for window-boxes, for vases suspended in pots, or indeed in any position in which a trailing plant may be employed, this is certainly one of the best things that could be grown. The plant is especially well suited to shady positions, and for window-boxes having such an aspect; it is invaluable at this season of the year.

* * * We find that a shady position is not a necessity for this, as we now have it in a window-box one mass of bloom. The great point is to give the plants plenty of water with an occasional dose of some artificial manure. The flowering shoots of the plants referred to hang down quite 2 feet, and against a background of *Vitis* inconspicuous the pure white flowers are very effective.—E.

A note from Cornwall.—Never has *Cassia cassia* flowered so freely. The bush is 7½ feet high, and stands next on the wall to *Bousinia baselloides*, which is not yet out. *Ceanothus* *Gloire de Versailles* is a mass of bloom. Rose William Allen Richardson is looking very well with many flowers open. *Chionanthus pubescens* has many seed-pods. The Rhodochiton bulb ripened seed out of doors last year; now it has run up 13 feet, and its long sprays are most effective, tumbling over a Solfaterra Rose in bloom. *Alstroemeria* is 10 feet high and a mass of bloom. The Passion Flower Constantine Elliott is well out, and *Jasminum polyanthum* shows a wealth of flower. In the garden *Prunella* is still out. *Anemone* cruentata looks in its best. *Mecanopsis Wallichii* grown in a shady walk has been out since the first week in Jun. *Veronica subeulis* is just coming into bloom, while *Malva lateritia* is looking well, and *Prunella grandiflora* just going over. Romneya Coulteri has run up to 7 feet this year and seems the better for the great heat.—BURNCOOSE, Perranwell, Cornwall.

Nymphaeas in Barks.—These very beautiful hardy water plants are doing well this season. Having failed to bloom the very pretty blue-flowered blue *Nymphaea cyanea* in other seasons outdoors, it is pleasing to see it this year throwing out its pretty light blue flowers. I should like to know if others have flowered this plant outdoors. The following *Nymphaeas* are all doing exceedingly well this summer: 1. *N. odorata* rosea, 2. *N. gigantea*, 3. *Mariacea carneae*, 4. *N. Matematika*, 5. *N. odorata sulphurea*, 6. *N. pygmaea* and the beautiful *N. Laydekeri* rosea with its red flowers looks charming growing beside the common white *N. alba*. Several other *Nymphaeas* of recent introduction are thriving well, and will bloom before the season is out. I have several other very beautiful water plants now in bloom. Amongst them I may mention *Limnocharis Humboldtii*, *Villarsia nymphoides*, *Sagittaria japonica* plena, *S. gracilis*, *S. sagittifolia*, *Alisma nutans*, *Aponogeton distachyon*, *Botomus umbellatus*, and *Pontederia cordata*. These water plants add a great charm to the garden, and where there is a small stream it is quite easily turned into a beautiful and interesting water garden.—W. TOWNSEND, Sandhurst Lodge, Berks.

The weather in West Herts.—On three days during the past week the shade temperatures rose to, or above, 80°, and on the 21st inst. 85° was registered. This is the highest reading as yet recorded this year, being slightly higher than the maximum of the 14th. On the 20th the heat in the sun's rays was greater than any I have pre-

viously recorded here, the black bulb thermometer rising to 143°. The range in temperature has again been considerable, and on the 21st amounted to 33°. The soil remains very warm, the temperature at both 2 feet and 1 foot deep being 6° higher than the July average. Since the month began less than half an inch of rain has fallen, and no rain water whatever has come through either percolation gauge for a week. On the 21st the air was extremely dry, the difference between the readings of a dry bulb thermometer and one with its bulb kept constantly moist amounting to as much as 18° at three o'clock in the afternoon.—E. M., Berkhamsted.

Converting wood into paper.—At a wood-pulp mill at Elsenthal, in Austria, a trial was recently made to show how quickly living trees could be converted into newspapers. At 7.35 o'clock in the morning three trees were felled. By 9.34 the wood had been stripped of its bark, cut into suitable pieces for the mill, converted into pulp and pressed into paper. Then it was passed from the factory to a neighbouring printing-press, and the first printed and folded copy of the journal was ready for perusal at 10 o'clock, just 145 minutes after the ax had been laid to the standing trees.

PUBLIC GARDENS.

Lincoln's Inn Gardens.—The gardens of Lincoln's Inn will, by permission of the Benchers, be open to the public on Friday next and following evenings from 6.30 until dusk, and on and after August 13 until September 11, inclusive, they will be open from 5 to 7. This privilege is intended more especially for the benefit of the poor children of the neighbourhood, a considerable number of whom visit the gardens nightly.

Hampstead Heath.—The London County Council, as the result of representations from Sir J. E. Millais, president of the Royal Academy, Sir Walter Besant, and other well-known gentlemen in literary and art circles, have decided to reduce by one-half the number of labourers employed on Hampstead Heath. It was stated that the employment of too many labourers when at any time there was insufficient work for them to do brought about the destruction of many characteristic beauties and natural effects of the Heath in order to keep them employed. According to the latest instructions issued by the Parks and Open Spaces Committee, the men's duties will in the future be confined to the "picking up of broken branches of trees, paper, bottle, and pieces of broken glass."

Fruit of Xanthoceras sorbifolia.—Will any reader kindly say whether the fruit of Xanthoceras sorbifolia is edible?—SUBSCRIBER.

Wood trellis for climbers.—Mons. Ed. André, replying to our inquiry respecting the wooden trellises so often seen in France, and which we think in some cases better than the ugly galvanised wiring now common, kindly writes: "Trellises in France are made of Chestnut, Fir or Pitch Pine, not of Oak. To make them durable they are passed through a bath of sulphate of copper. Before being placed in position they are painted pale green, or, better still, varandyke-brown."

Names of plants.—1. *R. Wallacei*.—*Oncidium longipes*, sometimes described as two-leaved, but the pseudo-bulbs as a rule produce one leaf.—J. H. Rose.—*Lysimachia clethroides*.—Young.—Flower quite shrivelled up, impossible to identify.—Edouard André.—*Centaurium venetum*.—2. *Phlox austromontana*.—3. *Pteris ericoides* albo-lineata?—4. *Nepriodium molle*? 5. send better specimen? 6. *Adiantum decorum*? 7. *Asplenium capillus-Veneris*? 8. *Adiantum conicum latum*? 9. *Oncidium incurvum*? 10. *Dendrobium chrysanthum*? 11. *Nephrosia molle*? 12. *Begonia Rex* var.? 13. *Begonia manicata*? 14. *Francoa ramosa*? 15. *Begonia metallica*.

No. 1269. SATURDAY, August 1, 1896.

Vol. I.

*"This is an Art**"Mend Nature; change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.*

ORCHARD AND FRUIT GARDEN.

SPRAYING APPLE TREES.

A FEW days since I visited an Apple plantation in the neighbourhood of Ottery St. Mary, East Devon, where nineout of the ten acres planted are devoted to the culture of Cox's Orange Pippin. The wants of the trees are carefully studied and, as far as possible, provided for. During the last season the crop was extensively damaged by scab or black spot, and it was determined to follow the practice of spraying in vogue in many of the American orchards. A garden engine, to contain 36 gallons of liquid, was procured. This is easily drawn by a pony, while the pump with which it is fitted works two hoses, one on each side simultaneously, and thus the trees on either hand of the rows are sprayed at the same time. The labour requisite to work the apparatus successfully consists of a pony with boy leader, one man to pump continuously, and a man or youth at each of the hoses to carefully direct the jets over the shoots and branches. The first spraying was given while the trees were dormant in the early spring, and consisted of a solution of sulphate of copper. The second, composed of Bordeaux mixture and Paris green, the former as a fungicide and the latter as a destroyer of the winter moth caterpillar by poisoning its food, was administered as soon as the rosettes of leaves unfolded and disclosed the buds within; while the third spraying was applied directly the fruit had set, and the fourth a fortnight later, these two latter giving the larva of the Codlin moth, as it emerged from the egg in the eye of the set fruit, a lethal dose at its first moult. Early in June at the aphis made its appearance, a spraying of Killmright was given, and later in the month a final application of Bordeaux mixture, this time without the Paris green, but with the addition of sulphate of iron. It is found that if a sufficient quantity of lime is incorporated with the mixture the foliage of the trees is not in the least degree harmed by the spraying. At the time of my visit, in spite of the drought and the shallow moorland soil in which the trees were growing, they were looking well and fruiting very heavily. In fact, in almost every case the branches had been already supported by ties. There was little evidence of the presence of the scab fungus (*Cladosporium dendriticum*) and the fruit showed no signs of dropping, a complaint, from all accounts, very prevalent in many districts this season. By constant stirring of the light, porous soil with a shallow scuffle that penetrates but an inch or so and that does not permit the appearance of a weed, a description of mulch is formed of the upper layer, below which the undisturbed, but sandy, siliceous soil, even with its elevation of 500 feet above sea-level and easterly exposure on an open hillside, possesses a certain degree of coolness, if not actual moisture, after the many weeks of unprecedented aridity that will render memorable the past spring and present summer. Many cart-loads of water-worn flints have been collected and removed from the plantation in former years, but those now turned up from time to time are placed around the trees, where they tend to conserve the moisture and also to

steady the roots which, as the subsoil consists of ferruginous sand, into which they show no disposition to enter, lie in close proximity to the surface. The situation of the plantation, though to all appearances ill-adapted to Apple culture, seems to suit Cox's Orange Pippin to perfection, at all events during the early years of its life. The permanent rows 16 feet apart, with the individual trees 12 feet distant from each other, are composed of symmetrical bushes on the English Paradise stock, with spreading branches that have attained a height or length of from 8 feet to 9 feet, and are short-jointed and well ripened. The trees are open in formation, with from seven to ten main branches, Ribston Pippin, of which there are five healthy trees, also on the same stock, are bearing well and show no signs of canker; in fact, so satisfactory has been their progress up to the present time, that their proprietor intends to make a further experimental plantation of a hundred or so, which, if it succeeds, may lead to a still larger area being devoted to this excellent but capricious variety.

It is a fact that cannot be too widely recognised among fruit-growers, that for really first-class dessert fruit, such as fine examples of Ribs' on Pippin and Cox's Orange Pippin, the supply in London does not equal the demand, and that during the past season some dealers were unable to procure sufficient to meet their requirements. It must, however, be fully understood that to command good prices it is necessary that care be taken in the packing and grading of the fruit, for should these not be attended to—as unfortunately with Englishman fruit seems usually to be the case—in spite of the demand, prices will prove unremunerative. S. W. F.

Early Peaches.—I never remember a season when one could gather Peaches from the open wire in June. This gives me the opportunity of naming the names of these early varieties and their value. Early Beatrice is one of the first. I do not like it on account of its small size and poor flavour. In fruit catalogues it is described as of medium size and finely flavoured, but I cannot agree with this description, as I find it small and flavourless, even in the most favourable seasons. Alexander is better, larger, and very early. This was ripe in June this season, quite a fortnight earlier than usual. Though this variety behaves none too well when hard forced, a summer like the present suits it admirably. Waterlooo also was ripe at the end of June this year, and, of the two named, I think this the better. It is of splendid colour, very early, and the tree is more prolific than Alexander, ripening with this variety and making a better growth. Amsden June closely followed the above; the fruits were large and good and grandly coloured. It was a few days later than the last named. Of course all these very early varieties lack the quality of our well-known late kinds, so only a few trees are required.—B. M.

Apricots in light soil.—The roots of Apricots are most active at this season of the year, and if there is a deficiency of moisture now there will be losses next spring, branches will die, and at an awkward time, when the gap created cannot be made good. The trees are now growing freely and, with ripe fruit, manures in a liquid state cannot be applied. There should, however, be no lack of moisture, as the fruit when they mature can be gathered and will keep a little time in a cool room. We do not know of any tree in light soil which need more moisture than Apricots, as if the trees are fruitful freely there is a great strain on them. I never like to see the leaves drooping early in the day, as if such is the case the trees invariably lose branches before winter, and in the case of old trees this is annoying. I think gumming, canker, and other ill-

these trees suffer from are in a great measure due to inadequate supplies of moisture during the growing season. In Apricots the growth is retarded in certain cases, and often young shoots start low down and make a vigorous growth. These may be of great service later on in taking the place of decayed branches. Such varieties as Oulline's Early Peach, Hemskirk, and Large Early are making very fine growths this year, and the Moorcock has borne immense crops in spite of severe thinning. I note these varieties as, being in light soil, they never fail to fruit freely. I am certain the flooding they so frequently undergo is the cause of such good crops but small loss of wood. I am sure if more moisture were given growing trees, not only at the roots, but overhead also, they would make better growth. In my opinion, from June to the end of August, provided there are ample surface or fibrous roots, is the most serious season, as if that is tided over there are few losses afterwards. Of course this note does not refer to injury by spring frosts. My note more concerns trees fruiting and what may be termed summer growth. I am well aware it is useless to give copious supplies of water with bad drainage, but in light soils the water is soon taken up in spite of heavy mulching.—G. W. THYRES.

Cherry Geant de Hede finger.—This Cherry belongs to the Biarreau section, and is noted for its good qualities, in addition to its lateness. It is also known as Monstreux de Mezel. Messrs. Rivers grow this variety in their cool house at Sawbridgeworth splendidly, and on many occasions have shown it in fine condition at this season. In appearance it is somewhat like a Biarreau Napoleon, but larger, darker, and very richly coloured. It is a very large fruit, black or brown-purple, firm and juicy, and a splendid keeper. Its season is about the third week in July, but this year it was earlier. On a west wall it does grandly, and is one of the finest flavoured fruits I have seen. I admit there are later varieties, but none superior as regards flavour and size. When grown in the open it is only suitable for wall culture.—G. W. S.

Peach Royal George and mildew.—No matter how favourable the season, the above variety is always more or less affected by mildew. Though the trees may be well cleansed in the winter, mildew reappears in the most favourable seasons. It would have been supposed with the weather we have had, and which the Peach and Nectarine revel in, that the trees would have been free from mildew, but such is not the case. Doubtless, should the nights get cold, with rain, we may expect it to develop rapidly, so that it is well to arrest it at an early stage. A good sulphur bath two or three evenings in succession will be effectual if the trees are thoroughly wetted. I find this better than dry sulphur, as the wash reaches all parts of the tree and prevents the mildew spreading. I admit it does not add to the appearance of the trees, but the foliage is soon cleaned with clear water after two or three dressings. I have used oil dressings, such as weak soluble petroleum. With care this is equally effective, and two syringings will cure, but the work must be done at once.—W. B.

Pine-apples not fruiting.—Pine-apples even of the Queen variety grown under a haphazard system often effect show fruit at the desired date, when healthy and receiving orthodox treatment through the summer, and gradually allowing them to fall to rest in winter, they almost invariably start when extra bottom heat, together with increased root moisture, are supplied in spring. To show the necessity for total rest during November, December, and January for Queens which are expected to open their fruit in June and July, I may mention that last autumn I, contrary to my general rule, partly renewed the bed of Beech leaves in which a batch of Queens was to be plunged for the winter, my object being to raise the plants nearer the glass, rather than to increase the bottom-heat, and although I was careful not to add more new leaves than was actually necessary for the purpose, it had the effect of raising the

bottom heat above the usual resting figure, this being further encouraged by the mildness of the winter. Of course, under the circumstances water had to be given to the roots, although in small quantities, to keep them leaves from shrivelling, this adding fuel to the fire. This results in that out of the whole batch only three of the plants threw up fruit in spring. My experience is that if Queen Pines fail through any cause to show fruit in spring, they are most uncertain as to when they will, and that, sa a rule, fruit ripened in, say, November or even October is invariably both smaller and of inferior quality, and the plants are minus suckers of any size for putting up for winter. Although I am not likely to be caught in the same trap again, I mention the fact to show that in these apparently simple matters all J. CRAWFORD.

Woolce and Nectarines.—The outdoor Nectarines are often attacked by woodlice, which sadly disfigure the fruits, and as they invariably select the best or most prominent, means to prevent their attacks are worth considering. It is well known these pests have a better opportunity in dry weather. The numerous cracks and crevices are their haunts, and it is difficult to reach them without a bait of some kind. I find it a good plan to place a few empty flower pots with pieces of *Porto* in slices, with a little dry hay or Moss over the bait. They will go freely into the pots, and if emptied out early every day and destroyed they are soon got rid of. I have placed a small ridge of fresh lime-stone close to the wall and around the stems of the trees, but at least a foot from the stems. They will not go over the lime. I do not advise the latter unless other means fail. There is no difficulty in trapping them in pots, laying the pots on their sides at nightfall.—W.

Strawberry Empress of India.—This Strawberry, one of the Guntow trio, should be grown by everyone having a suitable soil. It needs a somewhat strong, retentive soil and liberal treatment. The fruit is very firm, colour to the point, and travels well. One thing is necessary in order to secure the best results with Empress of India, and that is close planting, as it is by no means a strong grower—favouring Grove End Scarlet in this respect. It makes a delicious preserve, and for those who prefer, as much as to see the fruit whole after the jam is made, Empress of India is above all others to be recommended. A good way of growing it is to peg five or six runners into the soil, leaving these and the parent plant to fruit once and then making another bed.—J. C.

ORCHARD HOUSES.

An orchard house is a valuable addition to the glass structures in gardens where the locality may be unsuited to the cultivation of hardy fruits such as the Pear, Peach, Nectarine, Plum and, in extreme cases, the Apple also. Under such circumstances the owners derive a great deal of profit and enjoyment from the possession of such houses, as by their aid and protection all of the above-named subjects and Figs also may be grown to perfection. Sometimes a miscellaneous collection of tree grown either in pots or tubs, or planted out in prepared borders, finds accommodation in these houses, and sometimes they are devoted to growing but one or two kinds of fruit, according to the taste of the owners and also according to locality. This serves to show how valuable orchard houses are when properly managed, and it has been my good fortune to see many such in the course of my gardening experience. I recollect seeing a house of nearly large dimensions a few years back containing a fine collection of trees in good bearing, and which were in the best of condition as regards health. Their requirements were evidently well understood, as anyone could see at a glance. I will cite another case, and in this instance the trees were looked after by the owner himself during

his leisure time. He made the growing of orchard houses trees a hobby, and for an amateur, the result that he achieved in the production of Peaches, Nectarines and Figs were of no mean order. The Figs were fine large bunches in tubs and each one of each of the house, which was a span-roofed one, and they bore regularly fine crops of luscious fruit, the varieties being Negro Largo and Brown Turkey. I merely mention this to show what may be done by amateurs who are endowed with sufficient enthusiasm to enable them to master the details connected with the orchard house culture of fruit trees, where they are unable to grow them out-door.

Here it is unnecessary to grow Pears, Plums, Apples, Peaches and Nectarines under glass. Of course, the early crops of the two last mentioned naturally have to be grown, but the later crops succeed so well outdoors that it would really be superfluous to have glass houses occupied with them. A few years ago I formed a collection of choice Pears in pots and devoted a house to them, but although they were a success, I obtained equally as fine fruit from cordon trees outdoors on south and west walls. That being so, I gave up growing them and have since used the house for Figs, which has turned out to be far more profitable under the circumstances.

CULTURE.

I will now turn to details of management of these trees applicable to the time of year. Healthy, established trees with their pots or tubs full of hungry roots will require plenty of attention, as the heat of the sun and the admission of an abundance of fresh air will cause them to dry quickly. Watering is an important matter that must not at any time be neglected from the time the trees start into growth until the leaves fall in the autumn. The trees should therefore be watered as often as necessary, which may be two and, perhaps, three times a day should they be very much pot-bound. At one of these watering stimulants in the shape of liquid manure should be administered, regulating the quantity according to the growth the trees are carrying and their capabilities of assimilating the same. Heavily cropped trees will require more than lightly cropped ones, and the time I prefer for applying stimulants is in the afternoon. Amateurs should be careful not to apply liquid manure if the soil in the pots or tubs is very dry, as it simply runs through the dry particles of soil and becomes wasted. In all such cases the soil should first be watered with clear water. This will moisten the soil, and then if "liquid" is applied directly afterwards, the roots will derive full benefit from it, as most of its manurial and stimulating properties will be arrested and retained by the soil. With regard to stimulants, farmyard liquid proves a splendid fertiliser for orchard house trees when diluted according to its strength. Sheep and deer droppings also make a good stimulant when steeped for a few days in a tub of water, and a little fresh soil also forms a valuable addition. This should be stirred an hour or so before use, and then it can be lifted out in a clear state. It is a great mistake to stir up the contents of manure tubs or tanks at the time of using, as the particles naturally settle on the top of the soil, and in course of time choke it up and so prevent aeration of the soil. With regard to planted out trees, they will not need water so often, but at the same time a frequent examination of the border should take place, otherwise the cultivator might be caught napping. Manure water should also be applied the same as for pots. It is an excellent idea to heavily crop the pots and those trees whose roots are seeking for a fresh outlet to the dress liberally, and to enable this to be properly carried out it is good practice to have strips or nine cut about 3 inches or 4 inches wide and fit them just inside the rims. This allows of a great deal of soil or manure being placed on the roots, and at the same time leaves ample space for water. The top dressing may consist of some good turfy loam enriched with bone-meal or horse droppings, or a mulching of cow-shed

manure. It is astonishing how quickly the roots of Figs and other fruit trees take possession of this top-dressing or mulch, and it very soon becomes thoroughly permeated with healthy feeding roots, which is essential to the health of a crop of fruit of any description. The ring or garden engine, according to the number of trees, should be requisitioned daily, and if followed up, the daily washing will keep the trees clear of aphides and also keep red spider at bay. Unless water quite free of sediment can be obtained Plums and Nectarines should not be watered after they approach maturity, as the deposit will be sure to mark them, especially if spring water in limestone districts is used. Soft water or that from a pond is always the best to use, but it is not always obtainable, and when such is the case it is an easy matter to observe the foregoing rules when the fruits commence to ripen, and so avoid disfiguring them. A word of caution should also be given in the case of Figs, as the syringes is best withheld from them for a few days while they are in flower. This condition is easily discernible to the person in charge if he notices the fruits closely, as the orifice at the crown opens slightly and a few of the greenish white flowers are seen to be protruding. Naturally enough if syringing is done while they are in this stage, the drops of water are driven into the interior of the fruit and decay soon sets in.

Pears and Plums should have all side shoots pinched or stopped back to four buds if this has not already been done, and all secondary shoots or growths resulting from the first stopping should also be stopped in like manner. The leading shoots at the extremities of the branches may also be stopped back if not required for fruiting. In the latter case merely one of the tips. Any tree carrying too many fruits had best be thinned before they get too large, as it is better to err on the side of allowing them to carry too few than too many; the remainder will then grow to a larger size. Peach and Nectarine trees had better be looked over, removing all superfluous young growths, pinching back at the same time all lateral growths on the shoots retained for furnishing the trees with fruiting wood for next season. The tips of these may also be pinched out if the fruits have finished stoning to accelerate the final swelling. If the Fig trees are only expected to carry one crop of fruit, and that is as much as can be expected in an orchard house when grown in company with other fruits, the young growths should be thinned out. Do not stop those retained, as that would only induce them to throw a second crop of fruit, for which there would not be time for them to ripen, and it would also spoil the chances of getting a good first crop the following season. On hot, dry days the pathways and borders in the house are the better for being dampened frequently to counteract the dry atmosphere, and an abundance of air should be given whenever practicable, as such subjects as Plums, Pears and Apples cannot endure a hot forcing temperature such as the Fig, Peach and Nectarine do, and in which case turn towards maturity. Orchard houses should always be provided with ample ventilation, either at the front of the house, or as at the spots so that an abundance of air may be admitted when we are favoured with such brilliant weather as we are experiencing this season. An ample water supply should always be provided in the house, as it will save an immense amount of time and labour when many trees are grown, and from an amateur's point of view this means a great deal. A. W.

Ripening pot and planted-out Vines.—This has been a splendid season for the growth of the canes, and I would, as a large grower of pot and young planted-out canes, give a word of warning as to the ripening of the canes. I have been obliged to shade the young Vines to prevent premature ripening of the wood. I know that by recommending shading I lay myself open to criticism. The houses are mostly iron structures, perfectly hot, and I am obliged to have the Vines very close to the glass. I was caught napping in

1893, a season very similar to this, as I was under the impression that, provided the canes had good treatment in the way of food and moisture, due attention being paid to cleanliness, they would stand any amount of sunshine. This may be overdone if there is an absence of foliage or if the Vines are too close to the glass and not shaded in any way. This too free exposure causes early ripening, which in some cases causes a smaller cane and poor fruit buds. We had much sun heat in 1893, and that winter, during what I thought were splendidly ripened canes, we lost more than usual in getting the buds to burst. This I attributed to early finishing, this being caused by the great heat. With older Vines there is not this difficulty. My note refers to very early pot or forcing canes started early with a view to force hard. It may be said that the Vines which refused to start had a check, but I think not, and I place the evil to being in a hurry to mature and giving more sun heat than the canes required at that particular time. Last year was a splendid ripening season and there was no difficulty whatever in forcing. Vines less forced do not suffer in the way described, as there is more top growth, more activity, less inclination to rest, and though it is now advisable to restrict lateral growth with young Vine, those who have difficult houses to deal with and have allowed greater freedom of growth up to this date will be well repaid by the size of fruit buds and the way such buds will burst and fruit if hard forced. From now there will be less fear of premature finish, but even now with late started pot or planted-out canes it is well to give ample time to perfect a good growth. With due attention to moisture and shade, Vines this season have made a splendid growth and will now require attention at the finish. In all cases in removing lateral growth it is well to do this by degrees.—G. WYTHES.

Large Currants.—Those who grow these fruits generally ignore that fine variety known as La Versailleuse, or Red Cherry, for the distinction, it may be trifling indeed. And yet this is not only a very prolific variety, but it also produces by far the longest bunches and most richly coloured fruits of them all. The variety is somewhat like bird's wood if allowed to run loose, a Red Currant coming in here. Some bushes I saw lately are clean stems well above the soil, and although some eight years planted are still comparatively small, as they have their shoots shortened back just as the fruit is ripening to enable them to be easily netted over, and in the winter are hard pruned, so that the heads are clusters of fruit-buds. The variety is a capital one for growing in trained or cordon fashion against walls to give late crops. Currants always set bloom buds freely in such case, and when well trained and hard spurred carry heavy crops that are very easily netted up. Wherever this variety is exhibited no other Red Currant can touch it for size or appearance. There is no white replica of this fine Currant, but where fine fruits are needed for table, bushes should be, as in this case, harder pruned than is usually done, and the ground about them forked and liberally mulched. Heavy crops also may be early thinned. White Currants as a dish are much more effective when fine and well finished. For general cropping, the best Black Currants no doubt are Lee's Prolific and Carter's Champion — A. D.

Ill-flavoured Melons.—A friend was speaking to us of the peculiar mawkish ill-flavour of the common green-fleshed Melon of the English garden, and wished that he had some of the Melons which are common in the north of France and about Paris. Whether it is deficiency of sun in our country (which cannot fairly be said of the past two or three years), or whether it is the continued hybridising, and so-called "improvement," of the seedman, can the British Melon generally be to a deplorable failure, we do not know, but this idea that the raisers have, that these are always changing and improving, is one of the causes of failure. Where the Melon is always good, in the north of France, Spain, North Africa, Japan, or in the fields of North America,

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it does not change. In such cases the Melon becomes a source of food, and is often of fine flavour. It would, perhaps, be well if those who have any will of their own in the garden would turn over a new leaf, and cultivate the Canteloupe Melon the same as they do in the north of France, for it is a harder Melon, and is decidedly of a better flavour and a more nourishing fruit. It would also be well if we went back a little and changed in other ways; for example, the Melon in the north of Africa has delicious pine-apple flavour, far above the common hybridised green flesh of the English Melon. The Melon grows abundantly, which is typical of the climate of Africa, and which is quite different in flavour from ours, the Canteloupe, with the deer-rib. There are, no doubt, several varieties of it, but they do not vary much. We think also the old way of growing Melons in frames and pits gave fruit of a much higher and finer flavour than the present way of growing them in stony hothouses.—Field.

Apple King of Tomkins County.—The other day in going over a plantation of Apples I came across these trees of the above variety, which quite bore out Mr. J. C. Clarke's note (p. 258, vol. 49), that it often "grows as well as anyone 'an wish," though that unfortunately has not up to the present been my experience. The trees in question were on the Crab stock, were very vigorous, being about 9 feet high, and carried a fine crop of fruit that promised to be of full size and of the well-known brilliant tint. That it is an attractive variety there is no question, and where the tree bear well and keep in good health it should prove more profitable than many of our home-raised kinds. The soil in which the trees above referred to were growing was a shallow and gritty moorland interspersed with pebbles, with a subsoil only 10 inches from the surface, into which the roots refuse to penetrate. With me in heavy soil and on the Paradise stock the trees are dying of canker and the fruit is worthless.—S. W. F., South Devon.

SHORT NOTES.—FRUIT.

Plum Oullin's Golden Gage.—Amongst early Plums this holds a foremost place. This season it is remarkably early. At the present time (July 23) I am able to gather ripe fruit from the west wall. I used to find this one of the best cropping kinds when living in North Hants.—DORSET.

Apple Beauty of Bath as an espalier.—I was impressed by the size of this Apple when restricted to training the gardens at Jordans House, near Ilminster. Mr. Osbree had planted a tree of it some five years ago as an espalier. In this form it had done well and was carrying a fine crop, and at the time of my visit (July 15) he was sending it to table. Some say this Apple is an improvement on Red Astrachan, but it is a fair better cropper, as with me Astrachan is a very bad bearer.—JOHN CROCK.

FLOWER GARDEN.

TUFTED PANSIES—NEW VARIETIES.

The present season has been rather prolific in new varieties, and if the reader of every trade list were to accept the particulars given by those placing the new sorts in commerce as absolute facts of their peculiarities and good points, we should indeed be in possession of some of the most remarkable varieties yet raised. It is a fact which lovers of these beautiful hardy flowers have to admit, that reliance cannot always be placed upon the descriptions given, many sorts absolutely valueless being described in most glowing terms, and their remarkable colouring and markings ingeniously portrayed. As in most instances the Tufted Pansy is grown solely for bedding, it is of the highest importance that only those new varieties should be retained which possess a true tufted habit of growth. Many of the most charming blossoms are not produced on plants of tufted habit, as is now

tended to a degree, yet not so absolutely as one would wish for, and on this account they have to be discarded in favour of those which possess a prettier form of growth, although perhaps the blossoms may not be quite up to the standard of those on a less desirable habit. However much the stronger-growing plants may lack the true characteristics of the Tufted Pansy, very few, if any, will compare but favourably with the long and straggling habit of growth which is typical of the show and the fancy type of plant; and whatever may be stated against calling this exceedingly useful plant by a proper English and descriptive name, can have but little weight when the merits of the case are considered. But there are other reasons why those plants of an unsatisfactory habit are likely to be perpetuated, and that is owing to the demand now being made for ideal blossoms irrespective of habit of growth and cultivated solely for exhibition. Competitions are being arranged all over the country in which a given number of sprays is to be exhibited, and in such instances the best flowers consequently secure the premier positions, habit of growth not being inquired after. This points out the necessity for additional methods of showing the flowers, and in such a manner that growing plants may be seen in good condition. What could be more interesting than say a dozen plants in a round basket? Some of the chaste rayless sorts could be grown in such a receptacle, and if planted late in the autumn, would by the end of May cover the soil in the basket with a rich green carpet of foliage, to be followed by an almost innumerable quantity of blossoms. Such an exhibit would be the centre of attraction at any exhibition, as it would so ably illustrate the beautifully tufted habit of the newer sorts. The National Viola Society could not do better than introduce a few classes of this kind next season at their exhibition, when there is little doubt such displays would assist materially to further popularise the Tufted Pansy. Baskets might also be made up during March, using nice sturdy plants which were propagated late in the autumn, and these should be in first-rate condition by midsummer.

One very noticeable feature in the new varieties has been the remarkable similarity in the colours and forms of many of them, although they are sent out by different firms wide apart from each other. Quite a host of creamy white rayless flowers has been tried for the first time this season, in which there is little difficulty in tracing Dr. Stuart's Sylvia as the parent of most of them. Several of them have larger blossoms than the parent, while others, although larger, lack the neat form which characterises the original parent. Advance is being made there is not the slightest doubt, as not only are the individual blossoms larger, but, in addition to possessing greater substance, their footstalks are longer, rendering them very useful for cutting. Then there are other colours, of which Blue Gown is evidently the parent. Of the peculiar shade of mauve-blue of which this variety partakes there is quite a large progeny, very similar in colour, some slightly better and also larger. Many of them are dangerously near to each other in almost every particular, showing the absolute necessity for a careful discrimination. Dr. Stuart's Bedding Rose and Rosea pallida, both very much alike—pale rosy lilac—are run very closely indeed, many sorts in the trial being difficult to name correctly when apart from each other. In all these lighter shades of colouring the similarity is more noticeable, a few shades of colour which did not exist a few years ago being now

very often in evidence. Primrose, yellow, and deep yellow flowers are becoming quite numerous, the most fastidious taste being easily satisfied. A type of blossom which it is hoped all true florists will taboo is that known to many as the "Peter Barr" type. This variety was sent out a few years ago and admired because of its strange marking, combined with some delicate colouring in a broad band all round the flower, and enclosing a square piece of yellow colouring in the centre with most objectionable rays running right through it—a distinctly mongrel flower. This variety was persistently pushed by trade growers, and naturally a good few were disposed of. The result of the encouragement given to this variety has been the introduction of many others, some slightly better, and several others much worse. If the beauty and refinement which characterise the blossoms of the Tufted Pansy are to remain intact, all interested in the flower should set their face against the perpetuation of this objectionable type of the flower, which is not wanted, as there are so many other really beautiful sorts calculated to please, and within the reach of all. Then there are the miniature flowers, of which *Violetta* was the original, the progeny of which a trade grower has described as "Violettas," and which may lead to complications to the uninitiated unless the descriptive name of "minatures" be the recognised term used. We are getting a pleasing variation in the colours now, including white, cream, primrose-yellow, blue in many shades, besides many margined flowers, all extremely chaste in appearance and delightfully fragrant. Almost without exception the habit of growth of these sorts is specially suited for bedding, being typical tufts of growth.

In the list of new varieties which follows, the description of each sort is given, after a trial in a good open position and in which the testing has been rather severe. There are others which need further trial before a definite expression of opinion ought to be given, and these can appear at a later date, yet in sufficient time to allow all those interested to obtain cuttings from the specialists during the early autumn months.

NELLIE (J. Smellie).—This is probably the largest of the rayless creamy white flowers, and is one of much substance. The blossoms are beautifully circular and produced on long foot-stalks. Although so large, there is no trace of coarseness apparent, but it develops into a grand exhibition flower. The habit is hardly suited for the flower garden, as the growth is very strong and vigorous, yet will compare favourably with that of many others used for that purpose.

FLORIZEL (Dr. Stuart).—In this variety we have an ideal kind for all purposes, being suitable alike for exhibition and bedding. The colour is best described as a lovely blush-lilac, and the blossoms are somewhat oval in shape, standing out quite clear from the foliage on foot-stalks of quite length. The habit is all that one could wish for, each shoot making short-jointed growths with whorls at each fresh joint. In this way plants of good size are soon made, spreading over a wide area very quickly. This should be largely grown.

ROSEA FOLLIDA (Dr. Stuart).—This is a good companion to the last-named variety, partaking of all the good points, but of a light shade of colour—a bluish-lilac. For beds and borders this variety should be in large demand.

BUTTERFLY (S. Pye).—A large flower, resembling in its form and markings the well-known variety *Columbine*, but surprised to it in every way. As an exhibition flower this is sure to be in demand, as it makes up into a most effective spray. The growth is very vigorous.

Mrs. A. M. YOUNG (S. Pye).—This is a very free and useful variety, favourably comparing with *Iona* as a dark-coloured flower. The blossoms

are large and in colour most striking, are blotched alternately blackish violet and deep bluish lavender. A free-growing plant with medium habit.

STOPIHILL GEM (J. Smellie).—An extremely beautiful variety, with large and clean-cut circular blossoms of much substance, appearing to stand the excessive heat very well. The upper petals are of a bluish white colour, lower petals deep rich purple-violet with a light edging of lavender. Useful for bedding or for exhibition.

LADY REAY (J. Forbes).—Charming medium-sized flower, colour bright violet centre, shading to creamy white at the edges, quite a new colour in this form of the flower; nice compact habit, strong constitution.

BRIDEGERGROUN (J. Forbes).—This variety is in good form in the trial grounds at the Royal Botanic Gardens, Regent's Park, where it is flowering most freely. The colour is a charming lavender-blue, and it may be considered a rayless flower, although there may occasionally be seen the faintest trace of a ray in some of the blossoms.

MOLLY POPE (Steel).—This is a good sort, rich yellow in colour and free from raye. Rather vigorous grower.

PRINCESS (Steel).—Like the last-named variety, this is rayless, creamy white in colour, and of good shape. It is a strong and free grower, unsuited as a bedding sort, but of the highest value for exhibiting in sprays.

A. J. ROWBERRY (Geo. MacLeod).—This is without doubt the finest yellow yet raised, and has been more often exhibited than any other novelty this season. The large blossoms, of the deepest and richest shade of colour, are somewhat oval in shape, with plenty of substance. The habit for bedding is not so good as one would wish, plenty of the blood of other forms of Pansy being noticeable in its growth. In the course of a few years if this variety is properly hybridised, we ought to secure an equally good flower on a more tufted or spreading habit.

SHEELAH (S. Pye).—A very large and pretty flower of good form. Colour clear pale rose, with a deep crimson centre; the lower petals, which are somewhat sportive, are slightly shaded pink. Strong grower, but compact.

MRS. SCOTT (W. Sydenham).—An extremely free-flowering and chaste variety, being most continuous in its blossoming and one of the best bedding sorts. The only objection to this variety is the fliminess of the blossoms, but this is more than compensated for by the wealth of its display. The spent blossoms need to be removed as often as possible. Most robust constitution.

LAVERNE KING (A. R. Irvine).—An immense flower of a pleasing shade of bluish-lavender and extremely useful as an exhibition sort. The blossoms are of much substance and the habit is a very strong and rambling one, which unfits it as a bedding. The only variety awarded a first-class certificate at the National Viola Society's show in June last.

POLLY CHESTERFIELD.—Another large rayless creamy white, but too much like President to be highly esteemed. Strong grower. Good circular flower.

AMAZON QUEEN (A. J. Rowberry).—This is one of the Peter Barr type of flower before alluded to, and while possessing certain points of merit, these are far outweighed by the many objectionable characteristics peculiar to it. The colour is best described as follows: Clear yellow, with broad margin of bright bronze, with dark rays running through the square centre of yellow. The habit of growth is not by any means a pretty one, although there is no denying its robust constitution. A Tufted Pansy with the rich bronze colouring of this variety would indeed be a break in colour to what we now possess, and the only useful purpose to which it could well be placed would be in the hands of the hybridiser, who might possibly bring about a pretty result.

NIPHETOS (W. Sydenham).—A beautifully chaste rayless white self, very free flowering and of large size, good strong constitution, and a nice free, compact habit.

SILVER BAR (S. Pye).—Another very large flower of chaste appearance. Colour white, prettily flecked with rose, with clearly defined rays. A useful exhibition variety.

ETHEL HANCOCK (D. B. Crane).—This chaste and refined flower still remains the purest of the white kinds now grown. The blossoms are rayless, with a rich orange eye, and of medium size. There are few white flowers with so much substance, and those on the look-out for a good bedding sort would find this variety of the highest value. Strong grower, nice tufted habit.

THE BELLE (Dr. Stuart).—A very pretty flower of medium size, colour bluish-lilac, very near to *Rosa pallida*, nice spreading and tufted habit.

VIRGINIA (Dr. Stuart).—This variety is too near the colour of *Rosa pallida* and *The Belle* to be satisfactorily separated, and it is a pity to name sorts which are so very similar in colour and in other characteristics.

PENGATCLAN.—Another very beautiful creamy white variety, the lower petals being suffused with a yellow colour. Sweet scented, free-flowering and useful for bedding.

Mrs. WOOD (S. Pye).—A charming medium-sized flower, top petals pure white, the lower ones being a pleasing shade of bluish mauve, shading off to lavender at the edges, free grower, compact habit, a distinct flower.

BARTHOLDI (D. B. Crane).—A very large circular exhibition flower of much substance. The lower petals are rich deep purplish plum in colour, the upper petals shading off to a clear rose. Certified 1896.

The foregoing list of twenty-four varieties is only a small proportion of the novelties sent out during the present season by various raisers. There are many others which promise well, but before definitely expressing an opinion on their merits, a few more weeks' experience seems desirable.—D. B. CRANE.

—Your description and spirited defence of these in THE GARDEN of July 15 will be gratefully received by most gardeners. The ringing of the changes on the names and characters of Pansies and Violas, while legitimate enough on structural and other grounds, has landed many good growers into holes when they attempted to describe matters more definitely.

No one in the future can mistake the term "tufted." Your illustrations of *Campanula cespitosa* and *Saxifrage cespitosa* will explain the tufting of Pansies and other plants for a full future time. I well remember this tufted quality developing itself in my first stock of *Viola cornuta*, obtained from the late Mr. John Willis. The one plant speedily became a thousand, and so popular did the hybridised varieties then become, and so readily alive was their process of tufting out far and wide over the surface that they would speedily have clothed broad acres with their beauty only that the arid drought of East Anglia checked their progress, and thus I learned my first lesson, that however immeasurable the capacity of increase possessed by Tufted Pansies, Violas, or other plants, this is yet strictly limited and controlled by heat and dry soil. The same lesson must be learned by a journey or a change of residence from Bury or London to Edinburgh. Some of the most striking differences that no one can help seeing are writ large along or across every bed or line of Tufted Pansies. The more copious the rainfall, the cooler the climate, and the deeper and longer the shade, the deeper the colours, and the longer the blossoming season of Violas and Pansies, tufted or otherwise.—D. T. FISH.

* * * There is no doubt that the dry soils of Eastern and Southern England do control the ways of the Tufted Pansy, but with a little care in giving the coolest and moistest positions and top-dressings of cow manure and placing pieces of flat stone about the plants, they have got through even the recent hot seasons in the south. Wire and other worms at the root are more serious.—Ep.

CARNATIONS AND PINKS FOR VASES.—NOTHING can be more beautiful or more effective for vases than these popular and very charming flowers, and just at present they are in such great abundance and such infinite variety, that an endless succession of pleasing arrangements can be secured with very little trouble, for these useful blossoms are very easy to arrange. In cutting Carnations for decoration care should be taken to select blooms on long stems, to see that the said blooms are quite fresh, and to exercise discrimination in the matter of the colours chosen. No foliage looks so well with them as their own, and the custom of using this need not become extravagant, as with proper attention to the ends of the stalks the slips may be made to last three weeks or even more. The numerous varieties of the fancy grasses are peculiarly well suited to mix with Carnations, especially *Lagurus ovatus*, *Briza minima*, *Agrostis pulchella*, *A. nebulosa*, and *Eragrostis elegans*. The use of flower buds is also to be recommended, and these, as well as the shoots, can be taken from single seedlings, thus saving the choicer varieties. I have before me as I write a dull green Fern pot of Devon pottery in quaint design filled with blooms of a seedling very similar in colour and habit to Mrs. Reynolds-Hole, loosely arranged with its own foliage and cloudy plumes of *Agrostis nebulosa*. The effect is very charming, all the details, both of pot and flowers, being quite in harmony.

In the successful arrangement of flowers for house decoration a great deal depends on the vase or pot. Broadly speaking, coloured glass vases are an abomination. Venetian and Bohemian glasses are of course exceptions, also certain examples in delicate shades of yellow and green, which are now being offered at exorbitant prices. But the cheap and nasty articles in vivid reds, blues, and unhealthily-looking mixtures are quite fatal to the beauty of any flowers placed therein. In my opinion nothing can beat good clear glass or artistic pottery in subdued tints. In a glass vase I have just arranged a number of scarlet Carnations, judiciously mixed with white ones, this little group being intended for a dark corner, which it now brightens successfully. For cutting, the singles are by no means to be despised, and a pretty combination consists of a pink and white single mixed with Germania. Another very favourite mixture is Uriah Pike, or a similar maroon coloured flower, with Mrs. Leopold de Rothschild or a similar Pink. As a rule I prefer the fancy varieties to be arranged by themselves; the singles are by far the best for mixed arrangements, and then the most elegant effects can be obtained by using two varieties only; three or more different kinds will almost inevitably give a garish effect. H.

Papaver pilosum.—This perennial Poppy, although not so showy as *P. orientale* or *P. nudicaule*, is interesting for its distinct character and its orange-red salmon blossoms. Mr. Sydenham has a patch of it in his charming garden at Birmingham, and it is a conspicuous object, arresting the attention of the visitor on account of its unusual tint.—R. D.

Iceland Poppies.—Complaints are sometimes made as to the difficulty of raising seeds of *P. nudicaule* and its varieties, and some also complain of experiencing difficulty in getting the plants to live after being transplanted. When inspecting Mr. R. Sydenham's collection of Carnations at Birmingham my attention was arrested by a bed of Iceland Poppies in full bloom, yellow, scarlet, and orange. Mr. Sydenham pointed to them as a successful instance of transplanting. His method of raising seeds may be of service to those who experience difficulty in securing a

plantation. The seeds are sown in shallow boxes; they germinate readily enough, and as soon as the plants are large enough they are pricked off into other boxes, and when fairly established planted out in lines on a border. Every plant must have grown, for the lines were dense with foliage and the head of bloom all that could be well desired.—R. D.

NOTES ON HARDY PLANTS.

Cerastium grandiflorum.—Is by far the best species for garden decoration. As its name implies, the flowers are large, quite the size of a shilling. It is less liable than tomentosum to rot off in patches in winter, and when the flowers are over it heaps itself up in elegant transparent

sults are better beyond comparison; in fact, a contrast. Plenty of moisture is, I am certain, the right thing, but to prevent sourness I add lumps of charcoal.

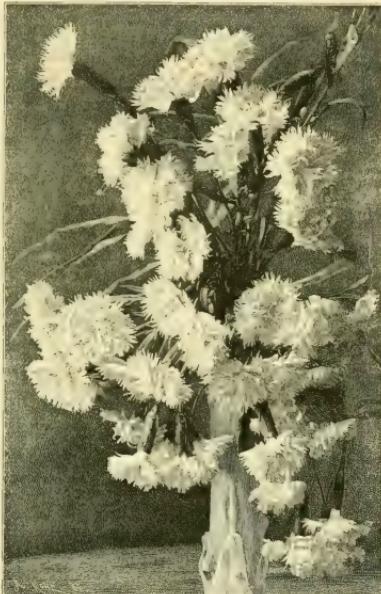
Dianthus Freyneri.—This is a gem of the first water. Plants which flowered early have begun to bloom fresh again. The flowers, rosy carmine, the size of a sixpence, sit close on the grass of the neat tuft, not more than 2 inches high altogether. A note should be made of this by those who seek the choicest alpines. It is apt to rot off at the ground line if set too far down. It does not spread by means of suckers or ground stems, like *alpinus* and *neglectus*, but forms slowly dense cushions from the collar. If you set it up and grip it by two pieces of limestone or chalk, the cultural conditions will be perfect, judging from my experience of it for a few years; you have then only to keep slug from it. It is a really good perennial, which is more than can be said of some of the *alpinus* group.

Helianthemum Tuberculatum.—Is distinct from all the other Rock Roses. Its big brilliant yellow flowers open with the early morning sunshine, and though perhaps the most fugacious of all flowers, constitute a charm to those who visit their gardens early. Besides, the succession of bloom is so long continued as to easily make amends for fugacity, and the plant has a pretty tufted habit. If you give it a light sandy or even stony soil in a south aspect, you may keep it going for years. For hardiness it is about on a par with the ordinary Rock Roses, but in stiff, clay soil I have not found it to do so well. People who say their soil is a cold clay or heavy loam must not attempt to grow this species, and for that matter scores of others. Such things must have soils and other conditions selected for them, and in this way greater variety may be grown on the same piece of rockwork, always provided the common error of mixing lime throughout has not been committed.

Genista tinctoria elata.—What a wonderful and charming effect this imparts on the higher and drier parts of the rock garden. It has a slender, semi-erect and arching habit, with leafy stems each 2 feet to 3 feet high, and profusely furnished with long spikes of golden blossoms which last for weeks. There is a peculiar feature of which these words can convey no idea. The or was bronzy hue permeates the mass of Willow-like stems that is most attractive, and which, perhaps, only occurs on well-established specimens. I think so because, though I have grown the shrub for three years, I have not noticed this feature before, but it is patent to the most casual observer now.

Houstonia coriifolia alba.—I believe most people find this more free and even harder than the type; hence one meets with it often. With a little manipulation, however, both can be kept going. In both cases the plants are apt to flower themselves to death or nearly so, and then the fog finish them. Then they are surface rooters, and the new roots issue from the ascending growths. The two cultural points are—pull off all the flowers and buds after there has been a reasonable flowering period, and press down the plants into their soft, moist beds of spongy soil and top-dress with silver sand and fine peat. This done in, say, August, the plants will rapidly form fresh dense tufts better fitted to stand the winter.

Saxifraga cuscuteiformis.—In a cold frame is a winsome object. The Dodder Saxifrage is a



Carnations as cut flowers. Engraved for THE GARDEN from a photograph sent by Mr. P. Terrass, Markinch, Fife.

most apt name for it. It surrounds itself with delicate flesh-tinted, thread-like stems or stolons, and these are distantly knotted with foliar knots; its stem and radical leaves are exquisitely veined and variegated, but the flowers are the chief charm. They resemble pure white moths, borne on erect, but almost invisible stems. The plant loves sunshine, but should not go dry; turfly loam is best, but it should not have its fleshy crown covered with soil. This may seem odd when it makes its roots, corms or granules rather deep, but that applies to the normal or established mass rather than a plant being started.

Shortia galacifolia.—What a grand show the foliage of this makes just now, shining leaves of leather-brown suffused a red or mahogany tint. No plant gives less trouble; indeed, it gives no trouble at all beyond preparing a suitable soil—silky loam and spongy peat used lumpy, and even on that point I would not lay too much stress, because I have the plants otherwise, as I have said before in these notes. I believe if you get healthy stock for a start you will rarely fail. Hitherto most of us have had to struggle with newly-imported material, heated, rootless and leafless; in fact, all but dead to start with. J. WOOD.

Woodville, Kirkstall.

CARNATIONS AT BOOKHAM.

AMONG the most popular of July flowers, and especially of hardy subjects, is the border Carnation—a flower fully equal to the Rose in the number of its admirers, and, in truth, superior when its durability as a cut flower is concerned; for while the Rose must be seen at a given moment, I would get a glimpse of all its grandeur, the Carnation flowered 10 days when it is cared for even when in fullest beauty, reached. At the present time the Carnations are making a truly wondrous display at Great Bookham, where Mr. J. A. Douglas has established what is practically a Carnation nursery. The nursery is as yet merely in its infancy. At present the Carnations (indoors and outdoors) may be seen in thousands, from the choicest of novelties and tried older kinds to the seedlings now flowering for the first time. On the other hand, the nursery of several acres—much of which is already under cultivation—promises to be well suited to the flower that is doubtless intended largely to figure in the programme of the future.

Edenise is quite close to the station at Bookham, and the clear open country is an ideal one in which to grow beautiful flowers to perfection. Just now three large span-roofed houses are devoted to the Carnation and Picotee, the former being considerably in the majority. The large show-house is a splendid structure for this particular work, and is ventilated with more than ordinary freedom. It is about 100 feet long and 18 feet or 20 feet wide, staged on either side and through the centre, and the almost endless masses of flowers contained therein constitute one of the grandest displays it is possible to conceive. Apart from the many fine things gained by Mr. Douglas himself, which are here in such numbers, the visitor will also find the cream of the kinds raised by Mr. Martin R. Smith, which are kept in themselves. As there is a fine batch of novelties for the present and succeeding season as yet but little known, save to leading specialists, it may be well to first direct attention to the more worthy of this set. Very striking at the outset is Miss Maud Sullivan, a variety possessing perfect form, an excellent calyx and fine salmon-pink flowers, that are very large and freely produced; the habit also is vigorous. Her Grace, which obtained an award of merit in June of the present year, is a pleasing delicate blush that finishes pure white. It is a most charming variety, flower large, perfect in form, and very full and free. The masses of its flowers were truly remarkable. Exile, a deep rose self, is a really imposing flower that will make a grand thing for evening decoration, a most telling shade of colour and very large perfect flowers. Nabob is another self kind, of orange-buff tone, though

very clear and distinct in its peculiar shade of colour. Sir John Falstaff has the distinction of being one of the largest border Carnations ever raised, and apart from this, the petal and calyx are both excellent, the former very firm and of good substance. Seagull is a lovely blushing-toned variety, very perfect in form, and possessing a strong robust habit. Winifred is another that, if I mistake not, has a great future in store; the great wealth of its masses of bloom, its wonderful freedom and perfect erect dwarf habit are points which make the visitor in an instant, and, moreover, go to show how utterly impossible it would be to judge such an one from a few flowers on a stand. The very handsome plants, notwithstanding they were growing under glass, were not more than 20 inches high, so that it promises, both by its dwarfness and freedom, to make a most perfect border kind. The flowers are full, symmetrical in form, an excellent non-bursting calyx and sturdy, vigorous habit of growth, in fact, an ideal Carnation in every respect. The only other in this set of novelties is Sweet Brier, a variety of very high order, possessing a good petal, fully shaped flowers and very free. Of considerable worth and full of promise as a good garden kind is Black Prince (Douglas), the flowers large and handsome, and of a deep maroon-purple, the calyx excellent in every way. Pride of the Garden, though a year or two older, is yet conspicuous by its handsomely formed flowers and full rose-pink colour, that is very attractive in a large group as here seen. Mephisto is, as may be expected, a very dark kind, while near by and in striking contrast, is the pure and beautifully formed flower of Snowdon, while King Arthur, in crimson scarlet robes, is bearing them company. This last is the handsome crimson-scarlet yet raised indeed; it is for all practical purposes a Malmaison. Its foliage and size of bloom, but differing from these in the shorter, never bursts. At this point occur some very fine novelties in yellow ground Picotees, which are being this year distributed for the first time, all of them having been awarded first-class certificates. Their names are Eldorado, rich yellow, very full, perfect in form and marked with rose-red; Golden Eagle, rich golden yellow ground, very large and edged bright red, flowers very full and free; Mr. Nigel (Douglas), a truly marvellous flower and a decided acquisition. At

a distance it is very conspicuous, the flowers perfect in form, very large, the ground colour a pleasing yellow with a heavy edge of crimson; Voltaire, bright yellow, with rose edge and markings; Nervex is a very fine clear yellow ground, margined with deep rose, a bright and effective variety. All these varieties are noted for vigorous habit, their fine flowers and perfect form, and bright, effective colours, while each possesses a perfect calyx. Among the older varieties of yellow grounds that still hold sway are Ladas, with its well-defined edge of scarlet; Mrs. Robert Sydenham, still regarded as a chief of its kind; Mrs. Douglas, very clear in the ground, and flowers of exquisite form and finish, with rose edge; Mrs. Dransfield, a variety possessing splendour, the yellow ground clear and chastely margined with light rose. President Carnot is also fine, the flowers self and with a distinct and heavy rose edge. There are many others, all possessing great merit, but among them others, all having a full list of the yellow ground varieties to be seen here, and which for many years have been a special study with Mr. Douglas. Mention, however, must be made of some at least of the finer selfs and fancy kinds that have appeared during 1894-95, and others, again, for the first time this year; and foremost among these, inasmuch as it may possibly prove the forerunner of a new race, is Bendigo, which, briefly described, is the nearest approach to a Blue Carnation. Its precise shade, perhaps, is best described as violet-purple, a perfectly unique colour among these flowers. It is, however, by no means easy to convey an adequate idea of the exact tone of this colour, which is more frequently seen in violet-plush than aught else. The variety, however, has per-

fected flowers and a vigorous habit, the flowers borne on strong, erect stems. Britannia is another fine yellow self, with exquisitely-formed and freely-produced flowers. Corunna is another yellow, the flowers clear and of good substance. Duke of Ormonde is yellow, with a buff tinge; the flowers of this are equal to the Malmaisons in size. Miss Audrey Campbell is a grand yellow of a very refined type, while Mrs. Patrick Campbell, a novelty of this year, is another fine yellow self, the petals broad and well-formed, very full, and forming a perfect rosette in the centre. This is a variety of special merit. Sadek, a dark rose; The Decy, a decided buff, which received the premium prize at Birmingham in 1894; The Hunter, a much-improved Mrs. Reynolds Hole, with perfect calyx; and Waterwitch, a most charming blushing-white variety, very large, and flowering abundantly, are among the most striking flowers at the moment. Beyond and apart from these were to be seen bright masses of such fine things as Hayes' Scarlet, Ketton Rose, very charming under glass, Burn Pink, Germania, as well as such fine whites as Nipheta, Mrs. Eric Hambo, which is the purest of pure white Carnations, as also the most perfectly formed of any. The glistening snowy whiteness of this variety is indeed remarkable.

It is impossible in the present note to dwell upon the many fine seedlings that are here in evidence, all under glass, and producing their wondrous masses of flowers in the greatest possible profusion, yet here they are filling three great houses, each 100 feet long and providing a rare, if not an unequalled display of these flowers. Many kinds had passed by reason of the great heat of the past few days, which has been most trying to the flowers.

Doubtless it may interest some of your readers to know how these flowers are grown, and I doubt not it will be a surprise to many—as, indeed, it was to the writer—to find the whole of the unique collection of plants flowering under glass in the unparalleled heat of the present month, without a particle of shade of any description. But Mr. Douglas has full and ample reason for this; indeed, his reasons are two-fold, and while he willingly admits that he thereby shortens the durability of his flowers somewhat, yet, on the other hand, he secures two very important points—viz., a maximum amount of seed, which in such a collection is of the greatest value; and secondly, ensures a perfect and thorough maturing of the "graze." In fact, the sturdy, short-jointed growth was as remarkable as it was free, and with such material there is little to fear of the results following good culture. Such a plentiful supply of short, sturdy, healthy and vigorous layers is by no means of daily occurrence, and they do not bolt readily and well. Mr. Douglas possesses plenty of room. The seed distributed from Bookham by Mr. Douglas is also producing a fame that will quickly spread, especially true is this of the seedlings also; indeed, at this season of the year flowers are being received daily of sufficient excellence in many cases to warrant their being retained. In one particular instance, where only fifty seedlings were purchased, a score of flowers were returned, asking Mr. Douglas to give his opinion of their merits. These included several flakes, together with scarlet, yellow and apricot selfs of a very promising character. Two other lots of blooms (the result of purchased seed) were very fine, one scarlet self being fully equal to the finest of existing kinds. Such a state of things must be most gratifying to all concerned, proving, as it undoubtedly does, that a great deal of intelligence and care is combined with a very ripe experience both in the hybridising and the selection of these increasingly popular garden flowers.

E. J.

Sweet Peas.—It seems impossible for raisers of these flowers to provide new colours. Most of the new varieties seen of late have been reproductions of older colours, but there have been some small improvements in size. Every kind of flower

seems to find its range of colours limited by some severe, yet incomprehensible law. Still, how many furnish a wonderfully wide range all the same. This is specially the case with the Sweet Pea, and yet its hues are so very closely allied, that where they are not absolute reproductions of those of earlier sorts, they are of the most trivial nature. But there is room for incorporating into the flowers greater substance and stiffness so as to secure more of boldness and of apparent endurance. The finest of the more recent introductions still show a flaccidness of petal, especially in the standards, that very undeservedly indicates that the flowers are already flagging. This flaccidness is entirely due to want of greater substance, and if we could but compare the standards of the finest of Sweet Peas with those of *Lathyrus grandiflorus* or of *L. latifolius*, we would see at once what in the former is lacking. I am told that this bent or drooping form of standard as seen in the Sweet Pea is the more graceful. I cannot accept that argument if for no other reason

short manure, and then replanting with the rooted layers. The other course is to destroy the entire lot at once, and either sow with grass seed or turf over the now worse than wasted space. I should like to see Carnations used to fill one or two of the open beds in the public gardens, as likely to be very grateful to the flower-loving public, or else, taking up a criticism of "E. J." recently, have the long border under the Palace and wall converted into a real hardy plant border, in which Carnations might figure largely. To that end, however, the border badly needs widening fully 3 feet, but there is ample room for that extension.—A. D.

Yucca flaccida or *filamentosa* is certainly the best of all the Yuccas in blooming freely, the largest clump of about 100 plants of this variety, and there were fully eighty spikes of bloom upon them, making a noble mass of colour unsurpassed by any other plant flowering at the same time. This was not an exceptional instance, as these same clumps flowered quite as freely

to have a somewhat shady site. In the gardens at Jordans House, Ilminster, a patch of *Helleborus niger* about 5 yards square was growing on a sloping border facing south in front of some plant houses. I never saw plants look more robust and healthy. On asking as to their flowering, I was assured nothing could be more satisfactory. I remember seeing some growing in a very sunny position at Rock Ashton last year, and here, too, they bloomed abundantly.—J. CROOK.

Geranium pratense f. pl.—In a season of drought like the present any border plant that will bloom freely should not be lost sight of. I saw a large plant of this growing in a mixed border at Jordans, near Ilminster, early in July making a brave show in company with many other things that could not stand the fierce sun. These hardy Geraniums are not much grown, but they have much to recommend them.—J. CROOK.

NARCISSUS TRIANDRUS.

THIS is one of the most variable of all the species of *Narcissus*, and is very widely distributed in Western Spain and Portugal, whence collected bulbs have been largely imported during recent years. But the plant has long been known and grown spasmodically in British and Continental gardens. *N. triandrus* is figured and described by Parkinson in 1629, and in French and Belgian works before that time. In 1787 there is a figure of *N. triandrus* (albus) at plate 48 of the *Botanical Magazine*, taken from a specimen that flowered in Mr. Lee's nursery at Hammersmith, and at a later date various forms were known and grown by Mr. Ellacombe at Bitton, and by Herbert, Salisbury, Haworth and others near London. The *N. nutans* of Haworth and *N. trilobus* of the *Botanical Magazine* are in all probability hybrids, and the editor of the magazine observes that "it seems to be intermediate between *N. Jonquilla* and *N. triandrus*."

One of the most distinct of all the forms of *N. triandrus* is the dainty variety called *pulchellus*, which differs from all other varieties in having the cup paler than the perianth segments. In suitable soils it is a strong grower, bearing seven to nine flowers on a scape. In 1873 I saw a small bed of this variety in Parker's nursery at Tooting containing a hundred bulbs or more, and was told they came from Holland. This beautiful variety also grows very freely with the Rev. Mr. Ewbank in his garden at Ryde, Isle of Wight, where I saw it blooming in April of the present year. Although *N. triandrus pulchellus* has been found wild in Portugal, it is doubtless of hybrid origin, and Mr. Englehardt has reared seedlings closely resembling it between *N. Jonquilla* and *N. triandrus albus*. The finest of all the forms of *N. triandrus* is wild on the Isle of Dréanec and on the Isle St. Nicolas, off the coast of Brittany, and it has long been cultivated by M. Blanchard in the Naval Hospital Gardens at Brest under the name of *N. calathinus*. It is shorter in growth and much larger in flower than the Portuguese or Spanish plant, the leaves being broader, more green in colour, and curiously revolute towards the apices. Varieties raised by crossing *N. triandrus* with some forms of *Daffodil* bear some sort of a resemblance to this plant, as also do some of the wild hybrids found in Portugal.

As a rule, *N. triandrus* does not exist long in a healthy condition when grown as a hardy plant in our gardens, but as a pot plant for cold frame or cool greenhouse culture, all the forms and their hybrids, such as Trimont, Snowdrop and others, are very charming. The late Rev. W. Rawson, Falibarrow, Windermere,



Narcissus triandrus. From a photograph by Mrs. H. Selfe-Leonard, Guildford.

than that it leads to the belief the flowers are flagging. In any case I should like to see a race which, retaining all the rich or delicate tints of the present varieties, as also their perfume, should give to us much stouter, bolder flowers having flatter or erect standards. I wonder whether any use has been made of *Lathyrus grandiflorus* to this end, or whether the two species would ally if intercrossed.—A. D.

Carnations at Hampton Court.—I do not know who is responsible at this place of resort for the small area of ground near the great vineyard. There is in front of this viney a big breadth of Carnations, but all in the most deplorable condition. So miserably are these big masses of plants blooming, that it is not possible for the casual observer to note varieties. The flower-stems have not been at all supported, and relative to grass they lie thickly on the plants. It is indeed a sad example of what should not be. Two courses seem to be open: the first to make Carnation culture a reality by having thousands of shoots layered at once, securing laterally of young plants, then grubbing out the old ones, trenching the soil, adding some stiff material and

last year. A very tenacious clay soil appears to suit them best, and they should not be disturbed, merely chopping off the offsets when increase is desired.—P.

A note from France.—Mons. Letellier, of Caen, in sending some shrubs, &c., to us, says: "On my return I went round the nurseries and send you some spineless Gooseberries; *Ribes nigrum* with cut leaves, a vigorous shrub with ornamental foliage; and *Spiraea Lindleyana*, which will not be confounded with *Spiraea sorbifolia*, a delicate flower. I also send two bouquets in flower of the purple-leaved *Calypso*, a shrub. I bought four years ago in America. The purple really only exists on the young leaves, but the tree in itself is always of sombre aspect, and agrees well with the ordinary green of other trees. It is, moreover, remarkable for its flowering quality, having at the summit of each bouquet a spike of flowers, and it is on account of this peculiarity I call your attention to it."

Christmas Roses growing in the sun.—It is an uncommon thing to hear people say Christmas Roses will not grow satisfactorily in a hot situation, and accordingly they recommend them

grew *N. triandrus* and its varieties beautifully in pots year after year. His plan was to repeat them carefully when at rest in June and July, and to give them abundance of water from the time they began to grow until the leaves turned yellowish after flowering, when they were allowed to dry off entirely in a cool place.

F. W. B.

FLOWER GARDEN NOTES.

As the interest in all those plants used in the flower garden that have either made a good show on the borders or proved very useful in a cut state, or show promise of doing one or the other or both is intensified in a season like the present, when atmospheric influences have been so much against them, I thought it might be advisable to draw attention to a few good annuals that have weathered the season well and that are worth noting for another year. The practice of partially filling herbaceous borders with such annuals is proving a decided success. Many moisture-loving perennials had a very short season, and were it not that in the majority of cases clumps of good dry weather annuals are showing up in close proximity to them, considerable stretches of the border would be bare and flowerless. *Pentstemon gloxinoides* I am very pleased with. It was sown the last week in February in warmth and the plants pricked out into a frame as soon as they were ready. They are now strong stiff and the flower-spikes are coming up very sturdily, not long and thin as one gets them sometimes on the ordinary type of *Pentstemons* in very dry summers, but exceptionally strong and with side-shoots already well developed. We shall doubtless get this in another season or two in separate colours, and well-planned mixtures can then be planted, in which they will play a conspicuous part. Any amount of seedlings of *Cosmos bipinnatus* came up early where old plants dropped their seed last year. Many were cut up, but a considerable number remained, especially if a neighbouring perennial was likely to be over early, and not being checked by transplanting, they are now strong, healthy plants just coming into flower, and the fine Fennel-like foliage is in itself an attraction. The flowers have a flimsy look, but really stand remarkably well both on the plants and in water. The newer varieties of *Calendula officinalis* are among the annuals that, once sown in any given spot, will make their appearance every succeeding year in great numbers, and as they are very showy a few patches can be reserved, especially if the season seem likely to prove hot and dry. Touching their endurance as border flowers, the remark is sometimes made in catalogues that "they will flower profusely for several months." This depends entirely on their treatment. If decaying flowers are removed with the persistence and completeness that are so essential in the case of Sweet Peas and all members of the Viola family, they will flower for a long time, but if the work is neglected, the season will be very brief. An editorial note last week referred to the very pretty effect produced in vase work by an association of Carnations or Sweet Peas with *Gypsophila*. Let me also recommend a combination of the latter with the crimson and rose forms of *Malope grandiflora*. Besides these colours, white and various shades of lilac are available in this very useful Mallow, but the lilacs have a rather washed-out appearance not sufficiently pronounced for ordinary vase work unless there is a special taste in that direction. They are hardly strong enough to withstand in an exposed situation high winds or heavy rains, and I have found it advisable to thin the seedlings hard, say to 15 inches, and stake lightly just before they are coming into flower. A special characteristic is their great endurance. If cut and placed in a cool shed, the flowers will remain quite fresh for two or three days without the aid of water, even when the stems are partially withered. The verdict on Sweet Pea Cupid—that is, for general purposes—

is hardly likely to be a favourable one. It is pretty enough in its way of a clear, pure shade, but it is too quickly over the top of much service on the borders, and with the absence of vigour it is difficult to see how this can be avoided, even with the most constant attention in the way of the removal of seed-pods. Possibly it will be seen to much greater advantage in a fairly damp, but even under the most favourable conditions one fails to realise the power "to bloom continuously from May to November" (*vide raiser's* description). In connection with the ordinary forms of Sweet Peas, those who are unable to water copiously are not having them at their best either in quality or quantity. I sowed in trenches and mulched well, but the plants are not much more than half the usual height, and although they flower fairly well, there is no vigour, the flower-stems are short and individual blooms are poor. Mars, Crown Jewel and Prima Donna are three fine new varieties, and of the older sorts, Blanche Burpee, Princess Beatrice, Her Majesty, Splendour, Captain of the Blues and Stanley are a good selection in various shades for cutting. The forms of *Gaillardia* that can be successfully flowered all through the first summer from early-sown seed will be found to hold out remarkably well, and are good "dry summer" annuals. Their use in a cut state is simply a matter of taste. Where brilliant colours are required, they are very serviceable; in fact, the only plants anything like them that will stand equally well in a cut state are the varieties of the annual *Chrysanthemum tricolor*.

HERBACEOUS BORDERS.—The fact that we have had since 1892 very dry summers forces us to the advisability (I may add from a right, though not a unanimous) of the reduction in the number of species grown, giving the preference to those things that will stand a prolonged drought fairly well, and transferring all moisture-loving plants to situations in which they are seen to better advantage. It seems a pity, for instance, in the case of *Paeonia*, *Spiraea*, and *Phloxes*, that the flowering season should be of such short duration. In fact, unless exposed borders are thoroughly well done on such a soil as that above named, the flowers are never seen at their best. The removal to more favourable positions is, of course, the best plan, but failing this it will be found advisable when making preparations for autumnal planting to get ready a bit of different compost, say two parts of stiff road sidings to one of cow manure, and to work a liberal dose of this beneath and around newly-planted clumps. This may be specially recommended in the case of *Phloxes*. The early and late blooming sections make collectively such an exceptionally fine and prolonged display (possibly better than any other flower that can be named of this height), that one is bound to do his best for them. The same remarks apply to plants of a dwarfer habit that happen to be favourites, and in a season like the present a long-sustained display is only secured by special care. In the case of all moisture-loving plants that one is not particularly anxious to have on the mixed border, I should say, after the experience of three hot summers as by all means replace them with other things that are not so susceptible, and with those that must be retained make provision for additional attention. Not that the most assiduous attention can be expected to bring such plants up to their true form in a season like the present where the soil is naturally dry and the subsoil light and porous.

E. BURELL.

Clairement.

White Lilies.—It is apparent, from the various notes that have lately been published, having the beautiful Madonna Lily for a subject, that the disease by which it is so often affected is still noticeable in certain situations. I have seen three decided cases of this disease during the past month in the south of England. This appears proof positive that the disease is not caused by damp, which theory has been often advanced to account for its sudden collapse, for scarcely a drop of rain has fallen during the growing and flower-

ing period of these Lilies. Doubtless in wet seasons the disease is more destructive, but it need not be confined to any particular life stage. At the present, though the effects are not disastrous as when moister conditions prevail. In only one case this year have I noticed the stems affected to such an extent as to prevent the opening of the blooms, though in other years I have seen hundreds of stems rotten and lying prone, and not a single flower produced by a large plantation. The note on *Lilium candidum* (p. 11) points to the manner in which the disease will affect some clumps and pass over others, leaving them entirely unharmed. In my own garden an instance of this occurred, a line of a hundred being destroyed, while a clump 2 yards distant was unaffected and has never shown a sign of the disease since. This immunity I attributed to the fact that the latter bulbs were home-grown, while the hundred that succumbed were imported from the south of France. The disease does not appear to be infectious, or the neighbouring clump would, either that season or later, have contracted it. The failures are, I believe, mostly cases of imported bulbs. It is rarely that the white Lilies in old cottage gardens are in anything but the best of health.—S. W. F.

NEW SWEET PEAS.

Some persons seem to think we have too many Sweet Peas, but it is wise in the case of any popular garden flower to have a wider range of selection, because variety is very material. A remarkable instance of this was mentioned on the occasion of the last meeting of the Royal Horticultural Society, when Mr. Henry Eckford, of Wem, staged a number of new varieties. Of these there were several which showed some distinctness of character. By standing by this collection for a time one hears these varied opinions: what one admired another thought unworthy of praise. So I think Mr. Eckford is to be commended for producing so much variety. Another feature about them is increased size and substance; but it is an undertaking to bring flowers all the way from Wem in such hot weather as that of Tuesday last, for the atmosphere in the Drill Hall was very trying, and it was not to be wondered at that by the middle of the afternoon some of the blossoms began to droop. Unfortunately, it was thought by some the act of fading was characteristic of flimsiness, which was not the case. Of Mr. Eckford's new varieties, Prince Edward of York, in my opinion, afforded a happy combination, the rosy salmon standards contrasting well with the delicate silvery rose violet wings. This was generally admired and received an award of merit. Queen Victoria is one of the primrose-coloured varieties, but when compared with Mrs. Eckford's it at once seen that the former was much inferior in the whole standards, which are deeper in tint than the wings, taken a faint tint of rose as they age, both larger and stouter than those of Mrs. Eckford. Lady Grisel Hamilton seemed to win favour from all, as it is of a lady's colour—delicate mauve, a little deeper in tint on the standards than on the wings, and yet actually a self-coloured flower. I think that when distributed it will be generally grown for cutting. This, and also Princess Victoria, received an award of merit. Salopian is one of the deepest coloured self flowers, very fine and stout in all its parts, and it is certain to become a favourite garden variety. In colour the standards are deep red, and as the flowers age they become stained and veined on the reverse with a kind of bronzy-blue, which leads to the supposition that some day a race of fancy Sweet Peas may be developed; the wings are pale rose-red with a slight flushing of violet. Duke of Sutherland is a fine showy variety, the standards bronzy maroon, shaded with blue; the wings deep blue, stout and bold. Mars is a very bright variety, the standards salmon-scarlet, brightest on the face, the wings violet-rose; this is also very fine and showy; the corollas stout and well formed. This is certain to

be grown for its brilliancy. Captivation has pale bronzy rose standards, the wings rose, heavily flushed with delicate violet, pretty and attractive. Royal Rose has the standards pink flushed with bright rose, especially on the reverse, the wings soft pink with slight veins of rose, very pretty. Countess of Powis has orange-rose standards, the wings paler, novel in colour and decidedly distinct. Duchess of Sutherland, blush, with slight veins of delicate rose on the reverse of the wings, is very soft and pleasing. Lady Nina Balfour has very delicate mauve standards, the wings delicate silvery mauve, also very attractive. Lastly comes Countess of Shrewsbury, delicate pink standards with slight veins of rose, the wings silvery white, the petals taking on a slight beading of purple on the edges as they age.

Now that the Sweet Pea is becoming such a general favourite for cutting, I have often wondered that more plants are not grown in pots for blooming in early spring. Flowers can be had by sowing half a dozen seeds in August in a 6-inch pot, keeping them through the winter in a cool greenhouse, and then in early spring getting them into flower. A few twigs placed round the sides of each pot will keep the plants upright. I make the suggestion because while the late Mr. Sturtevant at Chatsworth he used to grow Sweet Peas for early blooming in this way, and found them excellent. I know that at the spring season of the year gardeners, as a rule, have their hands very full. Still, one more subject is not adding much to the season's round of labour, and it is likely the Sweet Peas will be found more useful than some other things which are now cultivated.

R. D.

TWO FINE CARNATIONS.—They are Mephisto, shaded crimson-maroon, with flashes of brighter crimson on the petals, a finely-formed, full, smooth, round-petaled flower of rare finish, which does not burst its pod, and Mrs. Eric Hambré, white, with a finely-formed shell-shaped petal, filling up the flower and giving it a rosette-like appearance. Both are good growers, and will take high rank as exhibition varieties.—R. D.

Variiegated, broad-leaved Cress.—I often wonder that this striking and most elegant form of *Barbaris vulgaris* is not more grown for the decoration of the flower garden in winter and spring. Young plants from seed sown in April take on a very handsome variegation in autumn, and gay all the winter, for it is a very hardy plant, and in spring it is at its best. The plants soon go to seed, but if the flowering-stem be pinched out they will throw up young growths from the bottom and make charming tufts. I did this in early summer, for I had employed them with Hyacinths and other spring bulbs in furnishing a grave. The Cress was replanted with certain summer bedding plants, and it is now most effective between a line of blue Lobelia and some dwarf dark Fuchsias, and it will remain so all the summer. All that is required is to pinch back any side shoots which may show a tendency to flower. Once grown in a garden, a plant if allowed to seed will reproduce itself, and provide plants at but little cost of labour to the gardener.—R. D.

CARNATIONS.—I should like to note, pending another season's planting of Carnations, that where practicable the plan of shading down the colours from a given standpoint may sometimes be followed in a similar way to that adopted with Tufted Pansies and zonal Pelargoniums. Taking, for instance, any large fan-shaped beds that can be divided into several sections, each of sufficient size to allow the block of individual varieties to be large enough to show a nice breadth of colour, the shading may be carried down from Uriah Pike in the centre to, say, Goldfiner on the outer edge, intervening shades varying from deep, glowing and salmon-scarlets to the deep and pale apricots. *Propos* of the latter shade and the query to a good substitute for Mrs. Reynolds-Hole, Messrs. Laing and Mather claim to have found it in The Pasha, which I have not seen, but imagine from the description is a rather more

deeply coloured flower. If, however, one does not mind a rather paler flower, an effective substitute seems to be C. Gaskelliana, which is catalogued by Mr. Wetherell, and blooms of which I have obtained through the agency of Mr. Tallack, who praises it highly. It seems a smaller flower than Mrs. Hole, but the total absence of splitting is a grand feature. Despite the very dry weather, excellent growth has been made by nearly all the varieties grown; indeed, it is wonderful how well grass and flowers have alike developed in our light, dry soil and under the scorching sun. The stock being large, there will be the opportunity to select a few of the best shoots on the best plants, and the layering will commence with the earliest flowering varieties as soon as they are over. With the possibility of a continuation of the dry weather it will be advisable to put very little additional soil, but to layer nearly on the flat. The sorts with thin, somewhat wiry grass should be among the first to receive attention, as they are considerably longer in forming the nice tuft of roots one likes to see at the October planting than more succulent kinds. This is especially the case if the layered stem is nearly always on the dry side, and such a state of things could easily be avoided if in very dry weather the old fresh grass ploughed high round each stem is richly added to. A selection and increased propagation of the most serviceable sorts are advisable; one can, for instance, hardly have too many of thoroughly good crimson, scarlet, apricot, and white kinds.—E. BURRELL.

ORCHIDS.

NOTES ON CATTLEYAS.

At this season considerable care is necessary in the management of the Cattleya house, that is if the collection grown is of a representative character. The majority of the plants are approaching the end of their season's growth, and consequently the temperature may with advantage be steadied a little in order to avoid exciting the plants prematurely. I do not mean to say drop the temperature, but shut up the houses a little later in the afternoon and keep rather more air on top of the house on warm nights, and if possible without injuring any other Orchids than Cattleyas that may be growing in the house, allow the sun to shine on the plants a little later in the morning. While steadyng the growth of such as C. gigas or C. Gaskelliana, this will not check the progress of the autumn-flowering C. labiata, the flowers being in fact all the better for it; nor will it be sufficient to harm the advancing bulblets of C. Mossiae or C. Mendeli or the coming flower-spikes on the beautiful C. aurea. Splendidly have all these fine species done this bright and sunny season, and they never looked more promising than at present. Nor is the long-stemmed section, represented by C. guttata, C. bicolor, and others, at all behindhand, the sheaths of these two just now bursting and giving promise of a fine display. C. Leopoldii, a variety of the former, will be open in a few days, being well in front of the typical form, while C. granulosa and C. Schofieldiana will follow it.

While on this subject it may not be out of place to again warn inexperienced growers against lessening the water supply too quickly. A moment's thought will suffice to show the importance of this seemingly trivial detail. The bulb just forming is the storehouse of nutriment that is required to carry on the economy of the plant during the winter. Fail to give it proper sustenance now, and shrivelling during winter followed by weak growths in

spring will be the inevitable result. Water freely then until it is apparent that the pseudo-bulb has attained its full development; there will not in this case be any need of constant waterings in winter and early spring, when root action is not so free, and the plants have therefore not the same power of using the moisture. Too little water in autumn, strange as it may seem, is often the forerunner of many growths damping off in spring, not only with Cattleyas, but many other kinds of pseudo-bulbous Orchids. If time can be found to do it, great advantage will accrue to the plants by a thoroughly effective cleaning now. When taking some plants in flower of C. Gaskelliana out of the growing quarters last week I noticed that on some of them scale was making headway, and this led to an examination of other plants that apparently clean had many of these troublesome insects about them. A wet day coming opportunely, I had most of the plants cleaned, and the rest will be done as soon as possible. This will carry them through until a general turn out of the house about November. They cannot, in fact, be looked over too often, the small downy scale being frequently in evidence about the sheathing scales on the pseudo-bulbs and rhizomes when no suspicious of it can be seen on the leaves. I have just potted the plants of C. Warneri, and not any too soon, the little green points of the roots from the last pseudo-bulbs just showing. When they can be caught at this stage it is much preferable to repotting or basketing earlier, and there is plenty of time for the plants to become re-established before winter. Plants of C. Mosseae as they go out of flower will have the same attention, but those of C. labiata autumnalis are best attended to in early spring. Plants of C. Trianae and C. Percivaliana are looking well, nearly every new pseudo-bulb being furnished with its sheath. These, of course, will rest awhile before the flowers form, but none the less they are all the better for finishing up early in the time for the growth to be well hardened before the sun loses its power. The same holds good of C. intermedia and C. amethystoglossa, while C. Forbesii, C. Harrisoniana and one or two others must be kept dormant, the new growths coming away all the stronger in spring and consequently producing flowers of a higher quality and in greater abundance. R.

Treatment of Masdevallias.—Possibly there is a good deal of nonsense written respecting the culture of Orchids, as stated by H. J. Hunter, and to this he has added his own quota on p. 40. Most of us who go to the trouble of carefully shading, damping, and ventilating our Masdevallias will be startled considerably to hear that we are on the wrong track, that these Orchids are as easy to grow as *Pelargoniums*, so, presumably, will thrive and blossom finely in the greenhouse, the open air in summer, the cottage window, anywhere in short where frost cannot reach them. Also that by growing in loam fibre, broken bones, and other things, and giving manure water freely, it is possible to grow plants of from three to four leaves to specimens 1 foot to 2 feet across in four years. This is remarkable indeed, but how many plants went to each specimen? If simply made up of a number of small ones, then we cease to wonder, as there is nothing extraordinary about it, but if from single plants, as the note would imply, then Mr. Hunter's treatment is likely to revolutionise Orchid growing. But a little later on his argument falls to the ground, for I see he is careful to keep the temperature very regular and constant, the plants clean, and the atmosphere of the Orchid house thoroughly moist summer and winter. That is the idea, no doubt, and as long as Mr. Hunter sees that he will probably be successful, but it is

hardly worth while to under-rate the importance of this, for when all is said the fact remains that Marshalliansa want very careful treatment.—R. H.

Palumbina candida.—The pretty little pure white flowers of this plant, though not very showy, are very interesting, and I have noticed it in bloom in several collections within the last few weeks. The pseudo-bulbs are small, light green, and each bears a single leaf. The flower-spikes appear in the centre of the young growth, and carries from three to about eight flowers, each less than 2 inches across, and, owing to their horizontal position and a certain resemblance, they have caused the plant to be known as the "Flying Dove Orchid." It comes from the neighbourhood of Guatemala and South Mexico, and may be almost described as a cool house kind, though it will suffer if allowed to remain in a very low temperature during winter. Anything between 50° and 55° is a safe minimum, and the plants should be kept well up to the light in baskets or small pans. Not much compost is needed, about an inch over good drainage sufficing. The young growth shows itself in early spring, and from this time onward the plant must not be checked in any way until the pseudobulbs are formed. Whether sufficient quantity to maintain growth is needed, but it is not by any means a thirsty subject. During the resting season very little is needed at the roots, the atmospheric moisture being almost enough for its needs. It is an old plant in cultivation, having been introduced in 1813 but has never become common in collections.—R.

Laelia elegans alba.—Though in the forms that have come under my notice this does not possess the snowy whiteness and purity of some other white kinds, it is a chaste and delightful variety. The sepals and petals are white, the lip rich purple in front, lined with white, and becoming pale mauve on the tips. Fortunately, this is quite as free blooming as the more highly-coloured forms of *L. elegans*, the blossoms produced at the apex of the season's growth, four or five on a spike. This should finish the plant's work for the season, and afterwards the temperature should be as restful as possible so as to keep it quite dormant during the winter months.—H.

Cypripedium Stonei.—This handsome Cypripedium is certainly one of the best at this season; its tall spikes bearing more grace and than those of many in the genus. From three to five flowers are produced on each, the dorsal *sp. white*, lined with brownish purple, the petals drooping and similar in colour, the pouch reddish purple, veined with a deeper hue. C. Stonei, when once established, grows with the greatest ease in a moist, well-heated house and a shady position. It likes plenty of room at the roots and can hardly be over-watered when growing freely. It is a native of Sarawak, and was first flowered in this country in 1868 by Mr. Stone, Orchid grower to the late Mr. Day, of Tottenham.

Odontoglossum Harryanum superbum.—Under this name I have received a very large and well-marked flower of this species, but not, in my opinion, showing enough variation from the type to warrant the varietal name. The typical form and all the varieties are good, useful Orchids of more than average merit, and this is shown by the fact that though introduced by Messrs. Veitch ten years ago, it has found its way into nearly every collection and is universally admired. The lip in the variety referred to is rather wider than usual, and the deep purple veining shows to great advantage on the milk-white ground colour.—R.

Thunia Bensoniae.—This is not so much grown as *T. Marshalliana*, but is none the less a beautiful Orchid. In habit it resembles *T. Marshalliana*, and the flowers are each about 15 inches across, of varying shades of purple on the sepals and petals. The front lobe of the lip is a bright magenta-purple, and the blossoms are now in full beauty. The treatment does not materially differ

from that recommended recently for *T. Marshalliana*, a long and distinct resting season being necessary after the foliage has fallen. It is important that the temperature does not fall too low during winter, but otherwise the plants give no trouble until the young shoots start from the base, when they must again be potted and started. It is a native of Rangoon, whence it was introduced in 1867.

ONCIDIUM PR.ETEXTUM.

VERY pretty and delicately scented are the blossoms of this fine Oncidium, and lasting as they do so long in good condition, they help to keep up a display at a time when good Orchids are appreciated. In habit and general characteristics it much resembles *O. crispum*, and the flowers are produced on gracefully arching stems a great many together, usually branching, weak plants only producing simple spikes. It is a plant suited to the roof in an intermediate house and may be placed on shelves or in baskets. In either case it dislikes a large body of compost about its roots, but what is used must be of a good and lasting quality. The fibrous portions of peat mixed with an equal amount of Sphagnum will suit it admirably. Broken crocks or charcoal must be mixed with this for using in baskets; it will hardly be required on the raft, a very thin surfacing of material sufficing in this case. This may be first laid on the rods about half an inch thick and the plants firmly wired down to it, pressing a little around the base of the bulbs with the dibber if this is seen to be required in order to steady the plants. In all cases keep the leading bulbs as near the centre of the raft as possible, and also where it is seen they have room to extend, a little forethought in this respect saving trouble from crowding later on. If plants are used, allow a slight rise to the centre of the compost, this giving more room and preventing accumulation of moisture; only take care that some good rough lump of charcoal or similar material are placed below this, otherwise the compost, being so much thicker, will be apt to hold too much moisture and thus defeat the end in view. Here the same care is necessary in fixing the plants, and it is best done by passing a wire or two between the upper rods of the basket and over the rhizomes, using a few thin strips of bark or even a bit of dried vine to prevent the latter from being pulled through the wire.

It is best to shade this plant from direct sunlight, a good light being necessary for this Oncidium, shading being required in hot weather only. During the time growth is active and until the flower-spikes are past a good supply of water both at the roots and atmospherically is needed, but during winter a drier atmosphere and less water at the roots are necessary. Should it be growing in winter—and occasionally it does grow out of season—it must be watered rather more freely, and in no case must the growth be allowed to shrivel. With these few directions attended to and the foliage kept free of insects, *O. pr. extatum* will not be found difficult to grow, but weak plants must not be allowed to carry their blossoms until they fade, this being too much of a strain and causing the plants to break weakly in spring.

Cypripedium vexillarium.—This is one of the older hybrids raised by the late Mr. Dominy in Messrs. Veitch's nursery, where it flowered for the first time in 1870. Its parents are *C. barbatum* and *C. Fairreianum*, the former the seed bearer. Traces of both parents are easily observed in the flowers of this fine hybrid, the dorsal sepal being nearly white in ground colour, lined with purple and with a greenish tint at the base. The pouch is large, brownish, with veins of green, and the petals are purple also tinged with green. The habit resembles that of *C. barbatum*, the foliage being light green with spots of a deeper tint.

Dendrobium Duschainlessianum.—It is getting late for this fine Dendrobium to be in bloom, but I saw a fine specimen last week bearing many of the large showy flowers, quite distinct from all

others in the genus. It is a plant that requires a long season of growth, and is often the last to finish up its bulbs in autumn. During all this time it should be treated liberally with regard to heat and moisture, lessening the supply of water at the roots as soon as the bulbs are finished. Being a strong grower it thrives in large pots good peat and Moss with a liberal admixture of crocks and charcoal suiting it well if used in a rough and open condition. A good rest in a cool, dry house during winter is conducive to free-flowering. It is a native of India.—H. R.

Cypripedium Charlesworthii.—It is hardly three years since this lovely little Cypripedium was first exhibited before the Royal Horticultural Society by Messrs. Charlesworth, Shuttleworth and Co., and now it is to be seen in nearly every collection and in great variety. The dorsal sepal, the most prominent feature of the flower, is in some forms nearly pure white, in others it approaches deep rose, and many intermediate forms exist between these. The petals are small and may be placed on shelves or in baskets. In either case it dislikes a large body of compost about its roots, but what is used must be of a greenish brown, and the shield-like staminode plate is in all cases of the purest white. No difficulty will be found in growing *C. Charlesworthii*, for though not a vigorous grower the foliage is of healthy green type as in the older *Spicerianum*, and it may, in fact, be treated somewhat similarly. The plants may be grown in small pots in a compost consisting of about equal parts of peat fibre, loam, and chopped Sphagnum, adding to this sufficient crocks and charcoal to ensure a sweet root run, and allowing good drainage. Small and semi-established plants may with advantage be elevated a little above the rims of the pots, but this is not necessary for stronger, well-established specimens. A shady position must be found for it without keeping it dark, and being a native of Burmah, plenty of heat must be afforded.

GARDEN FLORA.

PLATE 1077.

THE JALAP PLANT.

(*EXOGONIUM PURGA.*)

(WITH A COLOURED PLATE,*)

THESE are few cultivated plants that are of economic value that have showy flowers, but the Mexican Jalap plant is an exception, as its blooms are very handsome, being nearly as large as those of the native large-flowered Bindweed (*Convolvulus Sepium*) and of a pleasing violet-purple tint. It is of a twining habit, and to be seen at its best must be allowed to ramble at will over and among other plants. In the more favoured parts of the country it thrives well. Mr. Ellacombe used to grow it well in his garden at Bitton. It used to do well also at Kew, and we believe it has also flowered in the Edinburgh Botanic Gardens.

It gets its name of jalap from its native habitat, Xalapa, in Mexico. It is the true jalap of commerce, by which is not meant that it alone produces genuine jalap, but that it is the plant that gives the name to the medicine. Good jalap may also be got, according to Dr. Lindley, from many other species of *Convolvulaceae*, even from our British species. The roundish tubers vary in size, those of mature growth being as large as an orange and of a dark colour. They owe their well-known purgative properties to the resinous ingredients; hence worm-eaten tubers are more valued than sound ones, as the insects eat the farnaceous and woody parts, leaving the resin.

* Drawn for THE GARDEN by Mrs. Miller. Lithographed and printed by J. L. Goffart, successor to Guillaume Severyns.



THE WEEK'S WORK.

KITCHEN GARDEN.

FRAME CARROTS.—Having to supply continuously throughout the year small Carrots in quantity, those for the winter and spring months have to be grown in frames. I attach some importance to the date of sowing this crop, for if sown too early the Carrots reach full size before winter, and lose much of their good quality before they can be met by those on hotbeds after the new year comes in; and, on the other hand, if left too late they fail to bulk properly. I find that the first week in August is the best time for sowing, and take every care to avoid failure and to encourage good growth, as, for the reasons stated above, it is impossible to rectify mistakes later on. I choose for this crop frames that have carried the latest crop of forced Potatoes, skimming off and throwing out the soil and then adding to the bed of manure and leaves sufficient similar material to raise the bed to within 15 inches of the glass and treading it well over before adding the soil, which is composed of two-thirds of that which has already carried the Potato crop and one-third of burnt earth and wood ashes; this is all sifted, well mixed together and put into the frame to a depth of 5 inches, and on this the seed is thinly sown broadcast. Should the young plants spring up too thickly, early thinning is necessary, as they quickly draw up and run all to top, even if left too thick, but thinning should not be overdone, as they will do very well if left some 2 inches apart. A good watering after sowing assists germination, and the frame may be shaded, with a view to prevent rapid evaporation, until the young plants appear, but after that they must have full exposure to both light and air. The lights of the frame must be entirely removed until severe frosts set in. I prefer the Parisian Forcing to all other Carrots for this work, as it is of such quick growth and good quality, but no liberties in the way of crowding must be taken with it, or the roots will be pale in colour. Those who do not object to a long-shaped Carrot will find the Holborn Forcing an excellent variety of exceedingly good colour, which keeps well far into the spring months. Another first-rate variety is Early Gem, and these three, if sown at the same time, will form a long succession, covering the season from November until new roots can be obtained in plenty from sowings made in January on hotbeds. The Parisian Forcing may also be sown now on a sunny open border, where it will form roots in time for drawing during the first few weeks of winter, and these will serve to prevent the necessity of breaking in on the frame crop to early.

FRAMED CUCUMBERS.—As the nights will now be getting longer and cooler it will be necessary to pay attention to the linings around Cucumber frames. Bitterness of the fruit is a frequent source of trouble during the late summer and autumn months, and many causes, such as watering with soot water, over-manning, and defects of soil, have been blamed for this, but my experience is that Cucumbers never become bitter on plants that are kept well under the influence of bottom-heat and in a growing condition. To effect this, the linings must not be neglected even in the warmest weather, for there is frequently a considerable fall in the outside temperature during the early morning that needs countering, and this can only be done by constant and piecemeal renewal of the linings, so that bottom-heat shall be continuous and not fluctuating. Those who have to depend on frames or pits heated with fermenting manure for a late supply will do well to sow more seed of an approved variety (*I* depend on Telegraph) and to grow on the young plants strongly, planting them out when ready in the narrowest pit at command. Of course there will not be time for these plants to yield a heavy crop, but they will care give some nice clean fruit up to the middle of November, and are infinitely to be preferred for this purpose to old plants which have been a long time in bearing.

The pit for these should be in a sunny position and the glass must be kept bright and clean, while the hillocks of planting soil must be brought nearer to the glass than was advisable for earlier plantings. Red spider has been more than usually prevalent this year, and must be well kept under by frequently syringing those plants which are now bearing a crop. Superfluous growth and old leaves must be cut away to provide room for development of new growth, but should not be removed in large quantities at one time. All young growth should be stopped at one joint beyond the fruit, and no fruiting joint should be allowed to carry more than two fruits.

ONIONS.—All crops are in a very forward state this year. Onions especially are fast approaching the ripening stage. The bulbs will be greatly improved if the plot is now gone over, giving the top of each plant a twist close down to the bulb and bending it to the ground at the same time; this will confine the energy of the plant to plumping up the bulb, which will then ripen up with a small neck and be in the best condition for keeping. Transplanted Onions, though no rain fell on them for weeks after transplanting, have come through this trying season in far better condition than those sown direct on the bed. The bulbs are well developed, quite large enough for any purpose and very regular in size, which is more than can be said of those treated in the ordinary way. Autumn-sown Onions of the Tripoli section should now be pulled, and will need no further attention than bringing under cover, unless wanted to be kept for special purposes, when they will require careful ripening and drying before storing.

MUSHROOMS.—Where material has been collected and prepared as I have advised earlier, this will now be in good condition for forming a bed in a cool cellar or outdoors in a cool place. Everything being so hot and dry this year, it will have been found necessary to sprinkle the manure pretty freely with water when it has been turned over, and the bed should not be made up until the material will stand the usual test and cling together without much expansion after being squeezed by the hand, for unless this is the case, the necessary solidity cannot be obtained when building the bed. The frequent addition of the manure over moist old beds beginners into the whole extension, and beds are consequently made up with a thickness of two or three inches. Should the manure appear at all spent, the last sprinkling it gets may well consist largely of stable drainings, as these will revivify it. I advise that only a small bed be made up to commence with, especially if room is scarce, and that the collection and preparation of material shall be continued, for later made beds will be far more likely to give lasting crops. Ridge-shaped beds give a greater cropping surface in proportion to the space they occupy than do those of any other form, and should be made up to about 3 feet 6 inches in height by 3 feet in width at the base. Sow at any falling temperature between 75° and 90° and case the bed over with soil in a moist, but not pasty condition to a thickness of 2 inches, making both this and the manure as solid as practicable.

ENDIVE.—A further and large sowing of Endive will be advisable without delay, and this is to me the most important batch of all, as the plants grow to a good size before winter, but do not get forward enough to spoil quickly after being lifted and transplanted or laid in cool houses or frames, and it keeps the supply good up to the end of March. Some little care is necessary to induce the sort of foliage that will put up with a fair amount of frost, and to get this each plant must be allowed a fair amount of room in all its stages. Any crowding with will give to existing blanching that may not be possible, and probably should be avoided with this. Continue plantings from earlier sowings as room becomes available. The Broad-leaved Batavian will be found a most excellent substitute for Spinach, and as the latter vegetable has not done very well during the past few weeks, substitutes have been and will be needed.

CORN SALAD.—This is another plant of which seed should be sown for winter and spring supply. It grows best at this time of the year in an unshaded position, and the leaves come much larger and more succulent when the plants are allowed room for development.

GENERAL WORK.—This still consists for the greater part in keeping the various crops alive and growing by giving them as much water as can be got. The weather has been very rough on small plants of all kinds, and those having their roots near the surface have suffered greatly. Special care must be taken of all young seedling stuff and to see that sufficient water is given to reach the roots of Peas, as a collapse of the latter comes as a great calamity. Cardoons must be well fed at the roots, or bolting is certain to ensue. A little soil from the ridges run in after the plants have had a thorough soaking does much good.

J. C. TALLACK.

FRUIT HOUSES.

WALL TREES.—APRICOTS.—In the southern counties most of the trees will now be cleared of their fruit, and where this has been done they should be well washed with the garden engine to rid the foliage of any insect pests. All the branches should be fastened to the walls that they may derive the full benefit therefrom to assist the wood in ripening. Where the borders are very dry they should be watered to prevent the foliage from flagging. Trees from which the fruit has not yet been gathered must not be allowed to become dry at the roots, for if this happens its quality will be sadly deficient. Though it is not well to over-water trees when the fruit is ripening during such weather as we have been experiencing of late, it will be almost impossible to give those against walls too much.

PEARS.—As is too often the case at this time of the year, water in many places runs short; therefore many things that need assistance have to take their chance, and Pear trees against walls are often neglected owing to the pressure of other work. Were these trees to receive due attention, there is but little doubt that many of the early varieties at least would be greatly benefited thereby. Some of the most forward varieties in the southern counties have been gathered, and the intermediate ones, such as the Jargonelle, will soon be ready. If trees of these were to receive a thorough washing, it would not only ripen the fruit to swell, but also prevent it from ripening prematurely. With the later varieties the ground around the roots ought not only to be kept moist, but the foliage this dry weather should be occasionally washed with the garden engine; the trees should also be looked over and any deformed fruit removed, as it would be of but little use if allowed to remain.

PIGS ON WALLS.—If not already done, the young growths of these should be fastened to the walls, taking care not to overcrowd. The growths ought to be so regulated that the whole of the wall space may be covered with foliage. If, owing to pressure of other work, the number of shoots has not been reduced to the amount required for laying in, this ought at once to receive attention. It often happens that, in addition to the leading growth from the crown bud, several others push and form growths, and if these are not removed in time, they rob the leading one of a large amount of nourishment and prevent the wood receiving the full benefit of the wall. When all the leading shoots have been secured, protect the fruit by covering the trees with small-meshed nets, as these are easily broken and thrashed out, and are fond of Pigs, but most of the small feathered tribes also. In some places rats and mice are troublesome; these should be trapped before much harm is done.

PEACHES AND NECTARINES.—With such weather as we have been experiencing of late it has been difficult to keep the foliage of these healthy. Red spider has been very troublesome; therefore the syringe or garden engine must be kept constantly at work to check the spread of this mischievous

little creature. It is astonishing the amount of water Peach trees require to keep them in a healthy condition, and unless this can be supplied they soon fail to make the satisfactory progress so desirable. With the manifold duties that a gardener has to perform it is impossible in most places to keep everything in order, and during such a season as the present, when the greater part of the time of the whole staff has to be given up to watering, it is a great strain on his resources. Syringing trees when the sun is on them does little or no good, and as most of them are growing against walls with a southern aspect, the sun is not off till after the men have left work. Could it be arranged that syringing might be done towards seven o'clock in the evening, the trees would derive far greater benefit therefrom than when done earlier in the day. True, those on a western aspect might be done early in the morning, but with the thermometer over 80° in the shade the foliage soon gets dry. There are few, if any, gardens properly supplied with water. Fresh fruit ripening ought to be protected, not only from birds, which are sometimes troublesome, but in case any fall that they may not be badly damaged thereby.

PEACHES.—Pay special attention to those ripening, for though they do not fall so readily as Peaches, when the fruit is ripe it should be gathered. Early Rivers and Blue Gage are now at their best with me, and as neither of them will hang long when fully ripe, they should be gathered before they fall. Where fruit of this description has to be sent a considerable distance it should be gathered a few days before it is ripe, as it will travel so much better than when it has got very soft. Families in many instances will now be going north, and where supplies have to be regularly forwarded to them, every precaution should be taken to ensure its safe arrival, for as the time in some cases that the fruit is on the journey is considerable, unless due attention be paid to packing, much of it will be of little value by the time it reaches its destination. Soft fruit, such as Peaches and Cherries, that are on the road for two days require special care, for having to be transferred from one train to another several times on their journey, much damage might follow if badly packed. Such fruit ought to be handled as little as possible, and no more than one layer of choice dessert kinds ought to be put into a box.

CHEERIES.—As the trees become cleared of their crop, pay special attention to washing them, that the foliage may present a tidy appearance. Morellos on north walls that are intended to hang for a considerable time should have a broad board fixed under the coping to prevent any wet from coming into contact with the fruit. This will not only protect them from the wet, but will cause the net put over them to hang further from the wall, thereby preventing the birds from driving it against the fruit. The same remark applies to Gooseberries growing against walls with this aspect.

BIG AND WHITE Currants that are required for late supplies ought to be protected with mats or shading to keep off the sun. This may not be absolutely necessary in the north where the fruit does not ripen so early, and therefore has not to hang for so long during the hot weather, but in the south the berries shrivel considerably unless some protection of the kind be afforded. The covering, however, should be such as to admit all the air possible, otherwise the fruit will rot.

MULBERRIES on walls will soon be ripening, and in districts where wasps are troublesome, special attention should be paid to protecting the fruit, for they attack it with such avidity, that no sooner are the berries palatable than they are cleared off.

GENERAL HINTS.—Where the branches of trees growing against walls are carrying heavy crops, the fastenings should be examined to see that they are secure, for if a strong wind should spring up they are often swayed to and fro, causing the supports, if not thoroughly strong, to give way, when the branches are broken off and the trees disfigured for the rest of their lives. Where there

is the least doubt as to their strength, the supports ought to be renewed, making them secure.

H. C. PRINSF.

KITCHEN GARDEN.

EARLY PEAS.

On page 15 Mr. Young gives an interesting account of the Pea crops under his charge at Witley Court this year, and his advice certainly ought to be valuable to the inexperienced when the extent of the work is taken into account. There is one item, I observe, that Mr. Young does not enlarge upon in his excellent note, and that is the highly favourable nature of the winter months when the sowing and planting of the early crops were done. Certainly the weather experienced this year has not been typical of the ordinary winters and springs we get, so that the results of this year cannot be taken as a guide. What, for instance, could be done with early January sown Peas last year, when in March the ground was held firmly frost-bound? and a similar question may be asked with respect to January sown Peas outdoors. In my case both the round and Marrow sorts perished in the ground; the latter, though not extensively sown, thus early proved their inability to stand much frost. This was my reason for advising when writing of early Peas in the early months of the present year, that at least a portion of the first batch should be of the harder round varieties, and to which presumably Mr. Young takes exception among others, for he says "those people who write against their being sown early cannot have given them a fair trial." No one can foresee even a few hours what the future weather may be in the winter months, and the sowing of Marrow Peas in quantity in the open ground is certainly a speculation that may be successful or the reverse. I certainly am not prepared to uphold the merits of the round Peas, because the Marrow kinds are superior in every sense, but I note that Mr. Young includes some round Peas in his collection of sorts, which is somewhat surprising after these inferior kinds have had no little condemnation from him in the past. Although the present season has been a record one so far as it affects the earliest Peas, I shall still continue to make use of a good round variety for sowing in conjunction with the early Marrows—which now there are some excellent ones available—and I should not hesitate to advise others to do so where advice was necessary. I should sow round Peas only to the extent of providing some gatherings in the event of the weather being too severe for the Marrows, causing a partial or total collapse. Gardens vary considerably in counties and districts both in respect to shelter, aspect and soil, and everyone who is responsible must adapt himself to the circumstances of his individual case, which may be favourable or otherwise. Undoubtedly, as Mr. Young points out, the sooner pot or box-sown Peas are planted out when weather is favourable, the better must the results be, for being free-rooting, they quickly fill their pots and utilise all the elements contained in the soil, and when this happens the inevitable result is a stunted growth and light crop. In small gardens the early crops of Peas have not the same chance of getting a totally new soil and site, because often warm border space is limited, and there are other crops which must share this. Much, of course, may be done by deep cultivation and heavy manuring, but I think, of all crops, Peas most appreciate an entire change of soil. Mr.

Young says as a second early Criterion has done grandly with him, and I am able to give an equally good report of it here. It was sown on the site of last year's Celery trenches, which were deeply dug, and although no fresh manure was given, but the soil only simply levelled after the Celery was dug, the growth and crop were excellent.

W. S.

Wilt.

Bunyard's Exhibition Long-pod Bean.—As its name implies, this belongs to the long-podded section of Broad Beans, and those who have not grown it should do so another season. Its cropping powers are extraordinary, and whether required for table use or exhibition, I am sure there are but very few that can claim to be equal to it. It is true the long-podded varieties are not favourites with everyone, the Windsor section finding many patrons, but, as a rule, it is on the score of quality that these are grown in preference. Broad Beans almost invariably must be sown to table in a very young and undeveloped state, when the natural flavour cannot be pronounced, though it matters but little which are grown in the case of those who require them only as a very young state. From an exhibition point of view the long pods claim the highest favour, whether they are presented in a well-developed state. Where these Beans are required in quantity for the supply of large households, the variety under notice would certainly be an excellent one to grow by reason of its heavy cropping and the large number of seed contained in each pod. There are others which produce longer and broader pods, but for general utility I find that Bunyard's variety is a good one.—W. S., Wilt.

Pea Yorkshire Hero.—At page 16 "R." inquires concerning the above, and asks if there are two varieties under the name. Personally I know but one variety, and this attains to feet and sometimes more in wet seasons. "R." remarks he has usually looked upon this variety as a midseason kind, and among these it is certainly one of the best. It is also excellent as a very late kind, and perhaps not so freely used for this purpose as its merits justify. It is now nearly thirty years ago since my father grew this Pea for very late work, and as a matter of fact, invariably secured the first prize on the last day of September with well-filled pods that could hardly be beaten at midsummer. Peas of this prime quality sold readily at 3s. per peck, the difficulty being to get sufficient. Others not up to exhibition standard were to be had some days later still, and these were rarely despatched.—H. H. M.

Seakale.—It says much for the rooting capacities of this vegetable, and in spite of its great leaf area, that it has withstood the drought remarkably well. On the hot burning soil of the Richmond allotments, where several growers a few rows annually from root cuttings, Seakale has done better than any other vegetable. Yet it is not because of deep rooting, as the root cuttings are seldom deeper than 6 inches in the soil, whilst new roots usually strike out laterally rather than downward. No doubt the primary cause of this good form under such adverse weather conditions are, ground generally deeply worked and well prepared, showing retaining moisture; plants thinly distributed, as excess from the crowding commonly found with other vegetables, and the thick fleshy nature of the roots which not only retain moisture long, but are doubtless capable of absorbing much from even comparatively dry soil. The thickness or substance of the leafage, so leathery and impervious, may also have something to do with this excellent growth. A good deal of courage seems needed to lead small gardeners of any sort to grow Seakale. They seem so anxious to secure early crops that one which requires several months' growth to come to maturity, and may perhaps not be utilised for from nine to ten months from the time of planting, barely commends itself to those who cannot look far ahead. But it is doubtful whether any description of crop repays the small amount of trouble involved in its

cultivation better than Seakale does. It is not too much to say that if growth be good, and strong hard roots with fine crowns result, the product in roots is worth 10s. per rod, and if these roots be gently forced in the winter, and the tops well blanched the product may be worth 15s. at the least. Potatoes at 2s. 6d. per bushel will not give anything like such a good return. Ground well prepared for Seakale, especially if the crop be trenched out in the winter, is always in first-rate form for some successional crop.—A. D.

Open-air Tomatoes.—These are yielding good crops where due attention was paid to early planting and feeding. There is less leaf growth and the fruits are setting freely. It is a good plan to relieve the plants of full-sized fruits as soon as they begin to colour and prevent loss of flavour by the great heat, which at times scalds the ripe fruit if the plants are dry at the root. Dryness must now be guarded against, as this will affect the setting of later crops. At this season it is well to get as large a number set as possible, as these will have time to mature, whereas later ones, should the weather be wet and sunless, will not make much progress. The best open-air fruits this season with me are Abundance and Magnum Bonum; I have not seen these named in any of the catalogues, but they deserve them. They are very prolific, not at all gross in growth, and the fruit of specially good quality. In such a favourable season any really good kind should give a good account of itself, but with me the two varieties named are superior on account of their colour, flavour, and nice size.—G. W.

Scalding in Tomatoes.—This has been prevalent this season, and to a great extent is fostered by the severe cutting of foliage carried to excess to get a heavy crop of fruit. It may be asked how can this super-abundant leafage which robs the plants of space or food be prevented? Reduction of space or food is the only way. Rich food is often given in excess, and without foliage to absorb the food given the roots it is forced into the fruits, causing bad flavour, spot, and scalding. We do not denude other plants of leaves in the same way as the Tomato, and I fail to see how scalding of fruits can be prevented where this severe cutting takes place. I think if more attention were paid to the roots, giving a firmer root hold and less food, scalding could, to a great extent, be prevented. I find the smooth varieties scald much sooner than the corrugated ones, the skin being probably more sensitive.—S. H. H.

DEFOLIATING TOMATOES.

Is it right to take half the lower leaves of Tomatoes off when they have set three bunches of fruit? My employer says it is the worst thing that can be done. My object in doing so was to let the sun in, and also that all the strength should go to the fruit.—*QUERY.*

* Cutting the leaves from Tomato plants, although necessary under certain conditions, should not be practised by rule-of-thumb. The foliage acts a channel for conducting the sap to the fruit, although in cases of extra luxuriance the leaves assimilate the whole of the nourishment, and the fruit, even though it may set, usually fails to swell. On rampant plants partial defoliation is beneficial, cutting every alternate leaf half away three parts of the way up the plants, saving those that are left entire in the same manner in ten days' time; this will check growth generally, rendering the formation of fruitful trusses of flower more probable. When, however, the plants make only a normal growth and fruit freely, the less the knife is used amongst the foliage the better, as it should be borne in mind that in addition to supplying the fruit with food, it acts as a protective agent; hot sun the latter sometimes having an blistering effect when growing on extra hot south walls; some sorts taking harm sooner than others. As autumn approaches and the fruit has swelled to its fullest, relieving the plants of leaves which hang immediately over the fruit is often imperative in order

to give it a chance of ripening before frost sets in; indeed, some good growers then use the knife somewhat freely, their contention being that the laying on of pulp has ceased, maturation by leaf defoliation is warrantable. This, of course refers to open-air plants. The best way of guarding against excessive leafage and of reducing the need of defoliation to a minimum is to grow the plants in a manure-free soil from the first, and to assist with stimulants after the fruit is set.—J. C.

Sowing Onions in autumn.—It is thought by many growers of Onions that it is only the Tripoli and Rocca types that will stand through the winter. In trade catalogues it is only the Rocca and Tripoli that are generally recommended for autumn sowing. All Onions are about equally hardy. I know a garden in Norfolk where only one kind of Onion was sown through the year. The variety was Nunchar Park, and the seed was saved by the grower, as it was raised from the stock when first sent out. For many years no other kind was grown, and even to this day this is the chief kind. In no garden have I seen better Onions for general use. When residing in this garden as a young man I planted half a acre of this kind and stood through the winter. When the crop was sown and put side by side with the spring-sown, you could not tell the difference. Last year some sown in autumn kept sound till the middle of this July. I intend to sow several kinds for trial that are generally sown in spring at the same time and beside the Rocca, and this August. I am under the impression that many kinds would not swell up into usable size as quickly as Tripolis and the White Italian. In places where the Onion maggot is troublesome I would strongly recommend sowing the Spanish and Giant Zuttan, as these are good, useful types.—DORSET.

Scarcity of Carrots.—This crop, in common with other vegetables, has suffered much from the drought in thin soils, and I fear in many gardens the winter store will be none too plentiful. The earliest crop where at all thick was soon over, and those sown for late supplies, if sown at all late, have not made good progress; indeed, I fail to see how the roots with only a short root-hold can exist under the circumstances, as they flag daily, and in many gardens it is not possible to give supplies of moisture. Much may be done to eke out the early winter supply by sowing the Early Short Horn or Early Gem in rich land as soon as the earth gets sufficient moisture from rain, and these roots will be of great service, as if left in the soil and drawn as required, they are sweet and just the size for table. Any plot just cleared will answer well, and time will be saved by watering freely after sowing, covering the surface with mats to retain moisture, and removing them as soon as the seed is germinating freely. The roots like a moist surface, and if a crop which impoverished the land has been grown, manure freely on the surface.—S. H. B.

THE ONION FLY.

Is a leaflet just to hand the Board of Agriculture says with regard to this pest:—

The Onion fly causes serious injuries to the Onion crop in some seasons, and it appears to be on the increase in this country. It is also a source of great trouble to the Onion growers in the United States and in Continental countries. Frequently in English market gardens, and market garden farms where Onions are extensively cultivated, large percentages of the plants are quite spoiled by the attacks of this fly. In cottage gardens and allotments the whole of the plants on the small Onion beds of the cultivators are often ruined by successive generations of this insect. The first indications of the infestation are shown by the lowest or first leaves of the Onion plants becoming yellow, and afterwards whitish; if these are pulled they come easily away from the stem, and gradually the other leaves become yellow and

decay. The bulb will be found to be small and badly shaped, and having yellowish maggots within, its folds feeding upon it and eventually causing it to become rotten and useless. In other cases the outer or lower leaves of the plants are seen to be lying on the ground, green, while the leaves remaining upright and green feed soft and flabby. If infested plants are examined it will be generally noticed that in the case of very young plants they are nearly eaten through, just above the swelling bulbs, by the maggots or larvae of the fly. In older plants with large bulbs maggots of all ages and sizes will be found within the bulbs. Onion plants that become yellow and show signs of drooping should be examined for maggots just below the surface of the ground.

HISTORY.

The male and female flies of this species differ slightly. The male is dark grey in colour, with black bristles. The eyes are red and close together. Upon the thorax are four bright brown stripes and four rows of black bristles. The abdomen is ash-coloured, rather narrow, having triangular black spots down it which almost join each other. The legs are pitchy. In colour the female fly closely resembles the male, but the abdomen is dark grey, with the end more pointed than in the male, and the eyes are wide apart. From six to eight eggs are laid on an Onion plant, upon the leaves and just above the ground. The eggs, which are white, long and somewhat oval, can be easily seen without a glass. Maggots (larva) come from the eggs in five to seven days, according to the temperature and other conditions, and make burrows down into the root or bulb between the sheathing leaves. They feed upon the contents of the cylindrical root, which can hardly at this stage be styled a bulb, and move on to other plants. Later on, when the bulbs are larger, they are occupied by many maggots, which feed on them and cause them to become rotten. Sometimes the bulbs will be seen to be swarming with maggots, and the earth round them is also infested. The maggot continues in the larval state for a period varying from thirteen to fifteen days, feeding throughout this period upon the Onion roots or bulbs. It is nearly four inches (one-third of an inch) in length, dull yellowish-white, dirty white in colour, the head part of its body is sharply pointed, and the head, furnished with a pair of sharp hooks, can be extended at will. The tail end is cut off obliquely flat, and in the centre there are eight teeth, or projections. Before pupation takes place the maggot usually goes into the earth. Sometimes pupation occurs within the Onions. The pupa—or rather the pupa case or puparium—is chestnut-brown, oval, not so long as the maggot, and has the same tooth-like projections on the caudal end. On opening this puparium the white pupa will be seen with the embryonic wings of the future fly, which appears in from thirteen to sixteen days after pupation. There are several generations of this insect. The first has been seen as early as April 25 in very forward seasons, and flies have been noticed through the autumn and as late as November. Curtis states, however, that he saw them alive in December.

PREVENTION AND REMEDIES.

Spraying Onion plants with offensive compositions is a good way of preventing infestation. Paraffin emulsion is as good a compound as any for this purpose. It may be made by thoroughly mixing together 3 pints of paraffin and $\frac{1}{2}$ lb. of soft soap with one gallon of boiling water. Mixing may be done by passing the composition through a hand pump once or twice; 6 gallons of water should be added to dilute it sufficiently, so as not to burn the Onion leaves. When the Onion leaves are young and very tender, 7 or 8 gallons should be added. It may be applied on small plots of Onions with a knapsack machine; on large breadths with a horse distributing machine. The spray should be dense and in the form of mist. This operation should be performed

early in the season, when the Onions have established their leaves. Spraying must be repeated, probably twice or thrice, especially if heavy showers fall after the process. When Onion plants in a field or garden are noticed to drop and wither, all such plants should be taken up and burnt or deeply buried. They must be taken up at once with a sharp three-pronged fork, or some other handy tool, so that every particle of bulb and leaf is removed. Wherever it is possible, Onions should not be grown again, for at least one season, on land where this crop has been infested, as the pupae remain in the ground during the winter. All pieces of bulbs should be got off infested land, as pupae occasionally remain in the bulbs. If it is necessary to take two successive crops of Onions on infested land the ground should be dug very deeply, two spits deep, and well limed or gas-limed. Sprinkling the young Onions with soot has been adopted with some advantage, but the pungent odour evaporates and it is necessary to give several dressings. Kainit, sown broadcast on land cropped with Onions at the rate of 5 cwt. per acre, has been found to be of great use. The action of kainit as a preventive of some kinds of insect attack in larval form, has been often noticed, though it is rather difficult to define the form or nature of its action. In the case of the Onion maggots it would appear that kainit prevents their progress from one Onion to another, either by the shape of the crystals, or by some pungent emanation from it. It is not the stimulant effect it gives to plants which makes them grow away from their enemies, as kainit is not by any means a forcing manure. Kainit should be hoed very lightly in after it has been broadcasted on. Nitrate of soda, applied at the rate of 1*l* to 2 cwt. per acre, should be put on infested land in order to stimulate the plants and make them grow away from the enemy. Lime and soot, mixed together in the proportion of 1 bushel of soot to 2 bushels of lime, very finely powdered and broadcasted over the infested plants and lightly hoed in, have been efficacious in a degree.

Notes from Baden-Baden. — Among hardy plants, *Delphinium speciosum* and *D. puniceum* are interesting and showy. The former is a native of the Caucasus, and when planted in a half shady position grows 6 feet high, with numerous branching spikes of deep blue flowers. The latter—native of South Siberia—is a little bush 2 feet high, and has large numbers of maroon-coloured flowers. A pretty effect is gained by planting the American *D. Nuttallianum* beside it; this has purple white flowers, adorned by a small deep blue blotch. *Silene Hookeriana* is in flower close to *Dianthus callizonus*, and both are charming alpines. The former has huge white flowers faintly tinged with pink; the latter has deep, bright rose blooms. Both spring from a cushion of deep green leaves. *Pelargonium Endlicherianum* is an interesting plant, being the only hardy species; it comes from Armenia. A splendid varietal strain of *Platycodon Mariesii* shows flowers fully 4 inches across. Among plants for bedding out in summer, *Calceolaria alba* should be mentioned; it forms a small shrub, richly beet with hundreds of its pearly white flowers. A striking variety of *Sanderonia aurantiaca*, stems 4 feet in height, with numerous bells nearly double the size of those of the typical plant, is much admired. Two new *Richardias* are plants of great promise; the flowers are as large as those of *R. ethiopica* or *africana*, of a cream colour with a shade of sulphur, and a violet blotch in the throat. A new *Hemanthus* is very handsome; it comes near *H. tigrinus*, the bracts and flowers of a soft rose colour.—M. N. LEWIS, *Baden-Baden*.

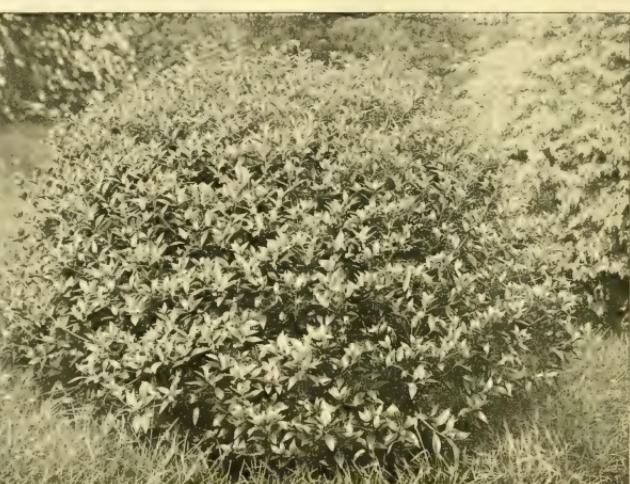
Early Chrysanthemum Samuel Barlow. — This variety appears to be a decided acquisition to those sorts blossoming early in the season. I

am growing it in pots and in the open border also, and from appearance at the time of writing promises to be a plant of a most desirable habit. Already it is breaking away most freely, lateral growths developing in such a way that will render it specially suited for the hardy border. These growths are again breaking, each new shoot carrying a number of buds which will ensure an early and continuous display. The colour is a bright salmon-pink, the flower full, of exquisite Japanese form. After the first crop of flowers is over, the new suckers develop into a nice plant, eventually giving a second crop of blossoms.—D. B. C.

TREES AND SHRUBS.

OSMANTHUSES.

ACCORDING to the "Genera Plantarum" there are seven species of Osmanthus known, and these



Osmanthus myrtifolius. From a photograph by Lord Annesley, Castlewellan, Co. Down.

are found in North America, Eastern Asia, and the islands of the Pacific. Only two of them, viz., *O. fragrans* and *O. aquifolium*, are of any importance to horticulture in Great Britain, the former being a half-hardy or cool green house shrub, the latter a hardy one. Both are evergreen, with opposite leathery leaves and small white flowers clustered on short stalks in the axils of the leaves.

O. FRAGRANS. — In greenhouses of any size this shrub—a native of China and Japan—is always worth growing for the strong and delightful fragrance of its flowers. Although the latter are small and inconspicuous, one or two are sufficient to fill a moderately-sized house with their perfume. It has for years been a very popular plant with the Chinese, who are said to mix the flowers with tea in order to heighten its aroma. The leaves are stiff and leathery, each 2 inches to 3 inches long, with serrated margins, and of a deep glossy green. Although strictly a cool green house plant, it may in favoured localities be grown outside against a wall.

O. AQUIFOLIUM. — In a strictly botanical sense all the Osmantuses cultivated in Britain, except *O. fragrans*, are merely forms of this species. There are, however, several varieties, for it is not unusual to see a plant with two distinct varieties on one branch. For convenience and brevity's sake, however, and especially as they keep true to character in the majority of instances, the common nursery names are here kept up. *O. aquifolium* is a native of China and Japan, and in the latter country it is freely planted near houses and by roadsides, attaining, in some cases the dimensions of a tree. Professor Sargent mentions having seen specimens 30 feet high with trunks 1 foot in diameter. In some of its forms it is curiously like the Holly, and is frequently mistaken for it. It is, however, of looser growth and less thickly furnished with leaves, and is also of dwarfer, more purely shrubby habit. What is generally accepted as the typical form of this species is the one with the largest and broadest leaves. In this the leaves are 3 inches to 4 inches

long, of oblong or oval shape, pointed and toothed, but not so deeply as the smaller-leaved forms known as *ilicifolius*. They are of a deep green colour and of very firm texture. This plant is, according to my experience, the least hardy of this set. It flowers in autumn and the blossoms are fragrant.

O. ILICIFOLIUS. — This is by far the most common and useful of all the hardy Osmantuses, and is, moreover, a valuable shrub for town planting. The leaves are usually much smaller than those of the plant just described and may be easily recognised by their deep lobing. The largest specimen at Kew is 9 feet high, with a spreading base and foliage of the deepest and glossiest green. The leaves average 1*l* inches to 2 inches in length and are cut half way to the midrib into several sharply pointed lobes. Some of the leaves, however, are quite entire, others lobed on one side only, but most of them have the upper half lobed, the lower half entire.

The following have been given varietal names:—

AUREO MARGINATUS. — Leaves similar to those

of the green plant, but margined with creamy yellow.

ARGENTEO-MARGINATUS.—Leaves like those of the preceding, but edged with white instead of yellow.

LATIFOLIUS MARGINATUS.—Leaves larger than those of either of the preceding, the margin creamy white.

PURPURASCENS.—The young leaves of this variety are tinged with purple, especially on the under side. This colour partially disappears with age, but never so much as to prevent the variety being easily distinguished from the green one. It is undoubtedly the best of all the Osmanthus for outdoor work, being much harder than the variegated forms. The frosts of February, 1895, left this plant quite unaffected, whilst the variegated forms and the plant described above as *O. Aquifolium* were so much disfigured, that even now, a year and a half after, they are only beginning to regain their former health. At Kew there is a group of this purple-leaved variety near the Palm house, amongst which is planted *Lilium candidum*, and nothing could more happily set off the beauty of this Lily. It is a shrub to be strongly recommended, and one which, we may hope, will do something towards ousting the ubiquitous and depressing *Cherry Laurel*. It is comparatively dwarf and slow growing and will never require the pruning to keep it within necessary limits that the Laurel so frequently has to undergo.

O. MYRTIFOLIUS.—There is an *Osmanthus* at Kew the lower part of which is *ilicifolius*, the upper part *myrtifolius*. The origin of the latter is therefore conclusively proved. It appears, however, to be itself constant and has grown on its own roots I have never noticed any reversion. It makes a neat bush, with leaves like those of the Myrtle in shape, but larger and firmer in texture.

O. ROTUNDIFOLIUS.—This is the dwarfest and slowest growing of all the *Osmanthus* and, is, one of the most distinct. Its leaves are very small and leathery, and distinguish the variety by their more or less obovate outline. The margins are not distinctly serrated, but have a very shallow irregular lobing. The leaves are each from 1 inch to $\frac{1}{4}$ inches long and a little more than half as wide.

The *Osmanthus* may all be propagated by cuttings, and although it takes longer to obtain plants on their own roots, they much more likely to be preferred to those grafted on the Privet. Cuttings should be taken in August when the wood has become firm, and they may be struck in a cool propagating frame. An open soil of fair quality and depth is better than a very rich one for all the forms, but more especially for those that are variegated.—W. J. B.

The following note *re* the plant figured has kindly been sent us by Lord Annesley:—

Osmanthus myrtifolius is a very distinct and handsome dwarf shrub, of compact habit, with dark green spineless leaves. The flowers are inconspicuous, but sweet scented. When planted in an open position in rich loam and peat it very soon grows into a spreading bush. The specimen in the photograph was taken from a plant seated over seven years ago, and is now 5 feet in height, with a circumference of 24 feet.

The Californian Buckeye (*Aesculus californica*).—Referring to your correspondent's observations in your issue of June 27 on the above, a few words here will show that in 1864 in a loamy clay and gravel is now 12 feet high and the head is 12 feet through; 1 foot above the ground the stem is 15 inches in circumference; 5 feet above the ground it measures 12 inches in circumference. It is in flower at the present time and has been so for the last six weeks. It is quite hardy. The situation in which it grows is exposed to north and north-east winds, 400 feet above the level of the sea. It sheds its leaves in the autumn,

but this year they have already begun to change colour, which I set down to the dryness of the summer.—JAS. CONDIE, *Brook's Hill Gardens, Harrow Weald*.

Mistletoe growing on Cotoneaster.—Last week, when staying in Worcestershire, I saw a large and healthy specimen of Mistletoe growing on a bush of Cotoneaster microphylla. I should be glad to know if a similar instance has been recorded. The Cotoneaster was against the house wall, and 50 yards away was a Lime tree on which Mistletoe was growing freely. I was informed that the Mistletoe had been some ten years on the Cotoneaster, and that it had got there without help from hand of man.—H. J. O. WALKER, *Lee Ford, Bullegh Salterton*.

Robinia pseudacacia sempiflora.—The varietal name of this form of the False Acacia is well merited, for it is a most continuous bloomer, commencing, as it does, just after the typical kind and continuing in some cases till August is well advanced. The long period over which the flowering of this Acacia extends renders it extremely interesting, as well as a highly ornamental variety. Taken altogether, the False Acacia is very prolific in distinct forms, there being particularly noticeable besides this the pinkish-flowered *Decisaiana*, a beautiful flowering tree, while of those remarkable for their foliage or habit there are several varieties, among them being *guttifolia*, elegans, which forms a charming light green elegant specimen, and with golden leaves; *crispa*, *latifolia*, and *monophylla*, all characterised by distinct foliage. Those that differ most from the type in habit are fastigiata, nearly as upright as a Lombardy Poplar; umbrosa, that forms a close, round head; and tortuosa, with curiously gnarled branches. Several other names are to be met with, but the above include a varied selection.—H. P.

Genista stenopoda.—Though it has been many times noted in THE GARDEN, where a colored illustration was given March 18, 1893, this Broom is even now a very half enough known species, but produces its blossoms after nearly all the others are past. Anyone paying a visit to Kew during the first half of July must admit that it is certainly one of the most beautiful of all outdoor shrubs to be seen at that time, for several fine specimens are there represented. *G. stenopoda* is one of the larger members of the Broom family, as it reaches a height of 10 feet or more and forms a specimen of a loose, graceful outline, whose long, slender shoots are pendulous and almost devoid of foliage. This omission is, however, compensated for to a great extent by reason of the bright green bark of the shoots. The golden-coloured blossoms are borne for a considerable distance along the slender drooping shoots, as shown in the coloured plate above alluded to. It is, as implied by the name, a native of the Mount Etna district, and was introduced into this country quite early in the present century. Like many of the Brooms, it seems in time to become worn out, but as it can be raised in quantity from seed, this matters but little. It will succeed fairly well in hot, dry soils.—H. P.

WATERING.

The great need for liberal waterings of all descriptions of plants in gardens during last and the present year has helped to emphasise the exceeding importance of the abundant supply in all gardens. Water is one of the ordinaries, mind factor and shower alternate with sunshine, the greater need there is for having plenty of water at disposal does not present itself. When, however, month after month passes away, and in place of showers, cold nights or dry harsh winds alternate with hot, parching sunshine, then it is found that without liberal waterings crops cannot thrive, and indeed can hardly exist. But even where there may be an abundance of water, very much of its usefulness depends upon the facility with which it can be utilised. Where with plenty of water there is

constant pressure and the hose can be always in use, great things in the direction of supplying useful moisture can be done. When, on the other hand, water has to be carried by tubs or cans, and often long distances to moisten crops, then is the labour most arduous; indeed, is of the heaviest which gardeners are called upon to undertake. Waterings that are of a mere surface kind do little or no good. They may give to vegetation a temporary stimulus and help to generate roots which come to the surface in search of moisture. But mere surface waterings soon disappear under the influence of hot parching sunshine, so that the latter case of the plants is very often worse than the first. It may well be asked whether as a matter of cultural policy watering in such cases had not better be omitted altogether. If soil has been, as all soils should be, deeply worked, it is far wiser to encourage the roots to go down deep in search of moisture, and find it, too, when the surface soil is parched and dry. All experience also favours the contention that one thorough soaking of the soil is far more beneficial than are several mere surface waterings. When soil has been deeply saturated it is not difficult to help to the retention of the moisture by surfacings with litter or manure, or even with dry, loose soil, as this latter, even if affording no plant nutrient as manure, will at least act as a mulch in intercepting the strong rays of sunshine, and thus prevent rapid evaporation. Although it is generally held that leaves have considerable capacity to absorb moisture from the atmosphere, yet let the air be ever so hot and dry it is surprising to see how leafage will remain firm and fresh when roots find moisture. When both air and soil are dry, then leafage suffers materially. Still, it is relatively easier to supply moisture to roots than to leafage, as soil may be made to retain water for some time, whilst leafage dries rapidly. But in the hottest of weather, assuming that the lights are of the ordinary character, no doubt considerable moisture is absorbed from the air by leafage then, as there is always some modicum of humidity available, as is evident by the way in which flagging leafage will revive so soon as the rays of the sun are withdrawn. But whilst plants do derive benefit from atmospheric humidity more or less, it is certain that all derive very material benefit from soil moisture. It is from the soil and through the agency of roots alone that plant food is obtained, and we know that such food can only be obtained through the agency of minute root hairs, in a highly soluble form, which is practically as liquid, so that where soil is very dry, not only water, but food is denied to plants. That roots have a remarkable searching power and can find moisture where none is apparent to human vision there can be no doubt. Nothing is more noticeable in that respect or more wonderful than is the way in which huge trees continue to leaf and grow year after year, even though the soil about them be hard baked, impervious, and apparently dry as dust. That condition of soil is often found in avenues, or woods, or where clumps of trees are dense, and there is scarcely any evidence of the presence of water. On the other hand, does not the absence of water, and consequently incapacity of the roots to absorb essential food, largely account for that not always apparent, yet actual internal decay so often found in trees that might be regarded as in the prime of life? Those who are familiar with the condition of soil beneath trees now, after we have had during the past seventeen months not more than three months, if even so much, of rain, realise what long and continuous downpours are needed to bring such soils into a normal condition of moisture. However, trees of

this description have enormous root areas, whilst garden crops have small areas, and in such case feel the need for moisture all the more readily.

A. D.

ROSE GARDEN.

ROSE SOUVENIR DE LA MALMAISON.

Possibly with the exception of *Gloire de Dijon* this grand old Rose is more extensively cultivated at the present day than any other variety. That this is so after being in commerce for fifty-three years is sufficient evidence of its great merits. It is an ideal garden variety. Commencing in the month of June to unfold its lovely clear flesh pink blossoms, it continues to do so all through the summer and autumn. Doubtless all the Bourbon Roses appear to best advantage in the autumn. The cooler days and nights appear to add a stillness to their petals which tends to prolong the life of the blossoms, and thus, instead of isolated flowers on one plant, as is often the case with many Roses, we hereby obtain a gorgeous display at the same time. One of the many charms of this lovely Rose is its beautifully formed bud of a clear flesh-pink colour, the outer petals being almost white. The expanded flowers are very flat, but as there is always a number of buds and half-open blossoms on the plant at the same time, this otherwise defect is easily overlooked. This fine old variety shows no indication of degenerating. The growth is vigorous and it makes a splendid subject to grow in standard form, as can be seen by the engraving, and if planted singly on lawns, backed up by dark green conifers, the effect of this Rose when in full bloom is not readily forgotten. It is a fine variety for planting in bold masses, and it appears to enjoy good hard pruning and good stiff loamy soil. I have seen plants cut down to the ground line spring up the following summer as vigorously as ever and flower quite as freely. I lately saw some hundreds of plants of this variety grown exclusively for market, for which it is admirably adapted, the fine buds commanding a ready sale, and if the plants are on their own roots or the seedling Brier, there never appears any cessation in their flowering. If a glass covering of some kind could be placed over the plants in October before the autumn frosts commence, we should be able to cut Roses up to Christmas Day. It is a fine variety for pot culture.

Three very good sports have emanated from this Rose. One named *Souvenir de la Malmaison Rouge* is velvety red in colour, but it does not possess altogether the good qualities of its parent. A much better kind is *Kronprinzessin Victoria*, the flowers being of a lovely sulphur-yellow colour, and it should be in every collection. The other variety is the climbing *Malmaison*. It is exceedingly vigorous, quite as much so as *Gloire de Dijon*, and the flowers are identical with those of the parent variety. It is rather shy flowering until well established, but doubtless it will soon become a general favourite.—PHILONE.

The accompanying illustration shows a Rose tree growing in the garden of *Uphill Rectory*, Weston-super-Mare. It is believed to be the largest of its kind in the county of Somerset, and probably in England. It was planted in 1877. It will be observed that it is all on one stem, and, strange to say, it has attained to its great size in soil which is little else but sand. Nothing has ever been done to it except topping every year to reduce its size. It blooms twice a year most abundantly, the September blooms generally

being the finer. A photograph was taken in June of last year, and at the end of that month there were upwards of 1000 blooms upon the tree. This garden is close to the sea, and is composed of tiers of sand, except, of course, the dressing which is put upon it. The strange thing is that a Rose tree should attain to such a size and be so prolific in blooming—and that without fail for some years past—in such a sandy soil. I should be glad to know if you have ever heard of a tree of a similar size and so free flowering. The dimensions are as follows: Diameter, 11 feet 10 inches; height from ground to bloom, 3 feet; extreme height from ground to point, 8 feet 2 inches.—ARTHUR J. BURR, *Uphill Rectory, Weston-super-Mare.*

Rose Paul's Single White.—Have any of your readers seen this very beautiful single Rose before?—second time? I have now a good-sized plant of it which is covered with bloom; the first bloom which was equally full was about a month ago. Although I have had occasional second blooms of it in other years, I have never had anything like the quantity I have had this year. These second blooms seem to be produced from

Mermet. It was exhibited in the stand for which Mr. Lindsell obtained the Dickseen cup at the metropolitan exhibition of the N.R.S., and when shown by Mosers, Dickseen at Ulverston, obtained for them the gold medal as a new Rose. It may be described as pure ivory white, with the outside petals blushed. It promises to be a good acquisition to a class which has not had many additions to it of late years.—D.

Rose Mme Pierre Cochet.—This Rose was beautifully exhibited by Messrs. Paul and Son in their stand of garden Roses at the Crystal Palace. It is a Noisette of peculiar colour and habit. The colour of the flower is light orange or apricot, while the growth is not rampant, as in most of the Noisettes, but dwarf, with very glossy foliage. It is very free flowering, and will be a valuable addition to our garden Roses, a class which is rapidly coming into favour, and deservedly so.—D. A.

Rose Mrs. W. J. Grant.—This is another of the Roses raised by the Irish firm. It obtained the gold medal from the N.R.S., and was afterwards purchased by an American firm, by whom its name was changed and who sent it out as *Belle Siebrecht*. This was likely to



Rose Souvenir de la Malmaison as a standard.

shoots made since midsummer, and the plant has not been pruned at all. Should this character be permanent, it will be a most valuable addition to our garden Roses, whose great defect is that of only blooming once.—D.

Rose Janet's Pride.—This very beautiful Brier, whose origin is unknown, has been very well shown this year, and seems to be increasing much in favour. My original plant of it had grown too large for the position in which I placed it, and I have been obliged to remove it, and consequently the bloom this year was not such as I could have wished, but I hope next year to have it better than before. My plant was a sucker from the original, which I found in Mr. Whitwell's garden in Darlington some years ago. It is, however, I believe, much better when worked on some stock—either Brier or Manetti; and being a little more than a single Rose, it lasts longer than those that are purely single.—D.

Rose Muriel Grahame.—This Rose—which obtained the gold medal of the N.R.S. at Ulverston—promises to be a useful addition to our Tea Roses. It is, I believe, a sport from the Bride, which is itself a sport from Catherine

create some confusion, and the committee of the society, thoroughly objecting to this change of front, decided, as far as they could possibly have influence with the growers of this side, that it should be called by the name under which it received the gold medal. It was too recent an introduction to be extensively shown this season, although some good blooms of it were exhibited both at Reading and the Crystal Palace; but it was shown in grand form by the raisers at the northern show of the N.R.S. at Ulverston, where a box of it obtained the first prize for the best light Rose. It is bright and fresh in colour, reminding one somewhat of *La Fraicheur*, and appears to be vigorous in habit. Those growers who were present at Ulverston said it fairly deserved the honour it obtained.—D.

Roses at Ulverston.—The exhibition held at Ulverston on the 15th inst. by the National Rose Society proved much more extensive than had been anticipated, and the general quality of the flowers was higher than at either the southern or metropolitan shows. The total number of exhibition Roses amounted to 2610, or about 500 less than the average for the previous eight northern

shows. Two of these exhibitions were, however, decidedly smaller, viz., that held at Sheffield in 1889, and at Workington in 1893. The show day was nearly perfect as regards weather, and the attendance of visitors, as shown by the gate money (£112), was large, the usual receipts at the local show from this source being, I was told, between £20 and £30. In such a remarkably early season it may be interesting to note the different parts of the kingdom from which the exhibits came. Excluding the local classes, forty-two exhibits were grown in England south of the Trent, thirty-seven in England north of the Trent, while fifteen came from Scotland and the remaining eleven stands from Ireland.—EDWARD MAWLEY, Hon. Sec. N.R.S.

Rose Mme. Chauvry.—This is a most lovely Rose, of a beautiful pale apricot colour, deepening towards the base of the petals, while the outer row of petals is of a charming pale fawn or buff colour. The flower is as large as that of the variety Mme. Berard, and would make a fine show Rose, especially if grown as a standard. It is of climbing habit, not quite so vigorous as Mme. Berard. A large bed of Mme. Chauvry would have a fine effect in the garden. The centre petals could be trained in pillar form, while the outer row could be pegged down.

Rose Aimée Vibert.—Just now this grand old variety is simply perfect. A plant grown in pillar form which I saw a few days ago was covered with large bracts of snow-white flowers, each bract containing as many as thirty to thirty-six blooms and buds. This splendid Rose is exceedingly valuable for its autumn flowering quality and also for its beautiful dark green, shiny foliage which it retains almost all the winter. It is a variety well suited for planting in cemeteries, and also to grow on tall stems to form a weeping Rose. Not the least attraction of this beautiful Rose is its almond-like perfume.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

JULY 28.

THIS meeting was one of the smallest held this year, the collections of hardy flowers and the very extensive and well-arranged group of Begonias and fine-foliated plants from Mr. Jones, of Lewisham, being the chief attraction. The colours of the Begonias, both single and double-flowered, were remarkably rich, these being well set off by the Palms, Crotons, Caladiums, and other things that were charmingly intermingled with them. The Orchids—no doubt in a great measure owing to the heat we have lately had—were also few in number.

Orchid Committee.

A first-class certificate was given to—

CATTLEYA ATLANTA.—A cross between *Cattleya gigas* and *C. guttata* Leopoldi. A plant with a single flower from this same cross was exhibited by Messrs. J. Veitch and Sons on August 14, 1894. The plant now under notice came from the same firm, and is no doubt one of the finest and most distinct of Mr. Seden's hybrids. It has a great resemblance to some forms of *Laelio-Cattleya elegans*, except that the front lobe of the lip is broader and brighter, clearly showing the influence of the pollen parent, *C. gigas*. The plant bore two flowers, the sepals and petals rose, shaded with a darker tint, the petals very broad at the base; lip broad in front, deep crimson-purple in colour. The growth was nearly intermediate between that of the two parents. It closely resembles some varieties of *Cattleya Fowleri* (*C. guttata* Leopoldi × *C. Hardiana*), but is superior in the size of the lip and more richly coloured. From Messrs. Veitch and Sons.

Awards of merit were given to—

MASDEVALLIA AJAX.—The result of crossing *M. Peristeria* and *M. Chelsonii*. It is intermediate in

the shape of the flower and is a distinct and valuable addition to this neglected genus. The ground colour is yellow, heavily suffused and spotted with dark purple. The tails are deep purple-brown; the lip chocolate-brown, with yellow side lobes tipped with brown. From Messrs. J. Veitch and Sons.

CYPRIEPIUM HARRISIANDER.—A hybrid between *C. Harrisianum superbum* and *C. Sanderianum*. The dorsal sepal is greenish yellow, lined, spotted and shaded with deep brown, the lateral sepal being of a similar colour. The petals are reddish brown, shading to greenish white at the base, spotted with dark brown; lip highly polished, deep brown, veined with a darker shade. This is one of the most distinct Cypripediums we have seen for some time. From Mr. W. C. Clarke, Liverpool.

ODONTOGLOSSUM ASPIDORHENUM.—A beautifully grown and finely-flowered plant, with small flowers in the way of those of *O. Sanderianum*. Sepals and petals yellow, spotted with light brown; lip pure white, with two to four purple spots in centre. From Sir T. Lawrence.

A botanical certificate was given to Dendrophorus curviflorum, a distinct variety, flowers pure white, except the centre of the lip, which is soft lemon-yellow. From Sir T. Lawrence.

Messrs. T. Crisps and Sons, Tunbridge Wells, were awarded a silver Banksian medal for a group of *Dissia grandiflora*, remarkable for good culture and the colour of the flowers. Messrs. F. Sander and Co. sent a small group, consisting principally of rare hybrid Cypripediums, amongst which were a good form of *C. Lord Derby*, certificated last year; a distinct and fine variety of *C. A. de Lairesse* (*C. Curtisii* × *C. Rothschildianum*), larger than the above, but the colouring not so clearly defined, the brown being more suffused on the dorsal sepal; *Cypripedium Massaeum*, a cross between *C. superbum* and *C. Rothschildianum*, and a fine form of *C. Pattersonii* (*C. Lowianum* × *Davyanum*), resembling the seed parent in shape and colour of the petals, the dorsal petal only showing the influence of *C. Davyanum*. *Paphinia Randii*, sepals and petals greenish white, lined and heavily suffused with deep red, the basal part thickly spotted with the same colour, lip bright red with a cluster of bristles at the apex; *Acropora luteola*, greenish yellow sepals and petals, lip bright golden yellow; and *Cattleya granulosissima* var. *principis*, a distinct variety, sepals and petals yellow, suffused with reddish purple, lip rose-pink in front, lined and spotted with brown, the base of the lip being bright yellow, were also shown here. Messrs. W. C. Lewis and Co. sent a plant of *Cattleya Schofieldiana superba*, a finely spotted variety with broad segments. It is certainly one of the finest we have seen. Mr. W. C. Clark, Liverpool, sent *Cypripedium Masselliae*, a hybrid from the same parents as W. R. Lee, of which it is a variety. Mr. W. Cobb, Dulcote, Tunbridge Wells, sent *Miltonia vexillaria* *Dulcote* var., a good form of the radiata section, having a distinct bright purple disc. Sir T. Lawrence, Burford, Dorning, sent a fine plant with eighteen expanded flowers of *Masdevallia infracta*; *Masdevallia hubbardi*, which sepals and petals tipped with brown, lip yellow in centre, heavily suffused with brown at the front and edges; a fine plant of the distinct *Dendrophorus revolutum*, and *Cypripedium Chas. Steinmetz*, a cross between *C. Lawrenceanum* and *C. philippinense*, distinct and intermediate between the two species from which it is produced. Mr. Seary, 164, Camberwell New Road, sent a collection of photographs of Orchids, showing in all cases the subjects to the best advantage.

Floral Committee.

Awards of merit were given to—

HOLLYHOCK OVID.—Finely shaped flowers of good size and substance, the colour bright rose, shaded with white at the tips. The plant appears to be of robust constitution and a remarkably free flowering variety. From Messrs. Webb and Brand, Saffron Walden.

DELPHINIUM ZALIL.—A distinct variety, with self-coloured canary-yellow flowers. This first flowered at Kew in July, 1888, and an interesting account of it was prepared by Sir Joseph Hooker for the April number (tab. 7043) of the *Botanical Magazine*, and reprinted in THE GARDEN of May 25, 1889, p. 492. From Messrs. Barr and Son.

CAMPANULA PYRAMIDALIS ALBA COMPACTA.—A grand form, flower-scapes 4 feet to 5 feet long, thickly branched and covered with pure white flowers, which were of good shape and substance. It is a finding to this class of plants. From Mr. G. Wythes, Syon Gardens, Brentford.

A very gorgeous display was made by the exhibits shown before this committee. A pretty exhibit of hardy herbaceous flowers and Carnations came from Messrs. Cutbush and Son. Among the former were *Adenophora Lamarckiana*, with pretty white, pendulous bells; the purple *Salvia Horminium*, some beautiful double Delphiniums, fine flowers of *Eustoma macrocarpa*, immense spikes of *Acanthus candelabrum*, and the beautiful and delicate *Catanche corulea* (silver Banksian medal). A group of Hollyhocks came from Messrs. Webb and Brand, Saffron Walden. Magnificent spikes of *Fire King*, *Joy*, *Ruby King*, *Alba superba* and *Mulberry*. Gem were shown, and other excellent cut blooms (bronze Banksian). Messrs. Barr and Son staged a very attractive group of hardy herbaceous flowers, the arrangement showing a great improvement on the usual method of staging. The bunches were in all cases lightly and gracefully put together, and crowding was avoided, the effect being very charming. Some of the best things were *Gypsophila paniculata*, *Echinops Ritro*, *Coreopsis grandiflora*, *Statice incana nana*, some very beautiful *Agapanthus umbellatus*, *Montbretia crocosmiaeflora*, *Anthemis Lilacina magus*, *Anthemis Canary Bird*, and a fragrant and splendidly coloured collection of *Phloxes* (silver Banksian). Messrs. Cannell and Sons sent three baskets of nice *Antirrhinums*, a dwarf yellow, *Golden Gem* being particularly pleasing. From Messrs. Cannell came also a large and very representative collection of cactaceous plants, all showing evidence of excellent culture. There were good examples of *Aloe platicarpa*, *Agave dasylirioides*, *Echeveria metallica crispa*, *Cacalia articulata*, *Yucca aloifolia variegata*, *Aloe vera*, *A. filifera*, *Euphorbia pendularia*, *Pilocereus sellaris*, *P. Hoppenstedti*, *Mammillaria pusilla*, and *Echinocactus longistriatus* bearing its pretty yellow blooms (silver Flora medal). A similar collection of cactaceous plants came from Mr. N. R. Chilton, Wealdstone, and contained examples of *Mammillaria viridis*, *Echinocactus Grusonii*, *M. longinamma*, *M. sanguinea*, and *M. densa*. Yet another large group of *Cacti* was shown by Mr. G. Prichard, Forest Gate, Oldham, fratrecon, *O. armada*, *O. argentea*, *O. fasciata*, *O. gracilis*, *O. brasiliensis*, *Cereus chilensis brevispinus*, *C. peruvianus*, *C. Baumanni*, *C. flagelliformis*, *Mammillaria Schehlisi*, *M. gracilis*, and *M. pusilla* were among the many varieties. A small, but interesting group of *Cacti* came from Mr. C. A. Blogg, South Croydon, and included *Mammillaria elegans*, *M. pusilla*, *Echinocactus Ottossonii*, *E. Grahamii*, and *Cereus peruvianus*.

A group of Dahlias and Sweet Peas, the latter very well arranged in bunches, came from Mr. J. Walker, of Thame. Among the Sweet Peas were Dorothy Tennant, a beautiful rich mauve; Scarlet Invincible, Princess Beatrice, Princess May, a very pretty light blue; Boreatton, velvety maroon; Venus, a delicate flesh colour; Cardinal, a particularly fine bright self; Mrs. Eckford, soft cream colour; and Empress of India, scarlet. The Dahlias were good examples of the large show varieties, the best being John Henshaw, John Standish, George Rawlings, Wm. Jackson and J. T. West (silver Banksian). Boxes of cut Begonias, somewhat damaged in transit, were shown by Messrs. Young and Dolson, Stevenage, Herts. A good group of cut flowers was shown by Mr. T. S. Ware, Hale Farm Nurseries. Tall spikes of *Campanula pyramidalis* and deli-

calily tinted Hollyhocks formed a good background. Other good things were Gaillardia grandiflora hybrida, Veratrum nigrum, Veronica longifolia subesialis, a large quantity of very lovely Pentstemons, and the pretty Lathyrus latifolius album (silver Flora medal). A very charming little Ivy-leaved Geranium, *G. pinnatifidum*, was shown by Mr. J. Haworth, Hamburgh. The flower is small, semi-double, and of a delicate pink colour, and it forms a bushy flowering shrub was shown by Messrs. Veitch and Sons. The varieties were *Stuartia*, *paeonia* Camellia, flowering well; *Corylus Colurna*, with a quantity of its pretty sheathed fruit; *Lavata macrostachya*, with masses of flowers; and some very lovely specimens of *Eucryphia pinnatifolia*. Messrs. Carter and Co. sent plants of a pretty new *Petunia*, Queen of Roses, a good rose-pink flower. Mr. R. Jensen, Chingford, put up a group of his new Geranium, King of Denmark, a sturdy dwarf plant with well-marked foliage and large, full flower-trusses of a bright pink colour (silver Banksian).

One of the finest and most beautiful exhibits in the show was a really magnificent group of Begonias, shown by Mr. H. J. Jones, of Lewisham. The flowers were of huge size, perfect in form, and most brilliant in colour; the plants were dwarf, sturdy, and the foliage perfectly clean and healthy. The arrangement was exceedingly good. Instead of the usual even topped mass of flowers and hard unbroken edge, the plants were staged in undulating banks, with a background of graceful Palms and Bamboos. At intervals in the group a Palm surrounded with the handsome *Asparagus plumosus tenueissimus* lightened the effect and served to tone down the brilliant colours of the Begonias. At the edge Crotons and small Caladiums were used with good effect. The ground-work throughout was of Maiden-hair Fern. The edge of the group was arranged in a series of distinct levels, each size being perfectly finished. A more beautiful group and one showing more true artistic merit has rarely been seen at the Drill Hall. It was a splendid example of the effect which can be obtained by the suitable use of beautiful foliage in the arrangement of flowers. This unrivalled exhibit was justly awarded a gold medal.

Fruit Committee.

Some very fine examples of hardy fruits were staged before this committee, the Gooseberries, Cherries, Plums and Currants in variety being specially good. Peaches were good, and Grapes an interesting exhibit, but Melons, though numerous, sadly lacked flavour.

A first-class certificate was awarded to—

GOOSEBERRY LANGLEY BEAUTY.—A medium-sized oval green fruit of first-rate flavour. It is a very fine addition to the dessert varieties, of a bright golden colour, with distinct character of growth, and an enormous cropping. It is a seedling between Ralway and Yellow Champagne. From Messrs. Veitch and Sons, Chelsea.

Awards of merit were given to—

GOOSEBERRY LANGLEY GAGE.—A medium-sized oval green fruit of first-rate flavour. The growth of the plant is upright. It is a seedling between Pitmaston Green Gage and Telegraph. From Messrs. Veitch and Sons, Chelsea.

RED CURANT THE COMET. raised in Jersey. The bunch is of great length, berry large, bright red. It is said to grow freely. This received a cultural award last season, and the committee asked that it be sent to Chiswick for comparison with other kinds. From Mr. Becker, Jersey.

Messrs. Veitch, Chelsea, have a large space with hardy fruits, having 125 distinct varieties. Of the gooseberries, Telegraph Dan's Maraque, Surprise, London, Lancashire Lad, Major Hibbert, Poughborough, Miss Nightingale, Prince Arthur, Trumpeter, High Sheriff and Magistrate were finer than are usually seen. Of the dessert kinds, Ironmonger, Red Hairy, Hedgehog, Red Champaigne, Keane Seedling, Green Walnut, White-smith, Early Sulphur and Bright Venus were noted for their good flavour. Plums were staged

invariety. Early Prolific, Sturt, Green Early Gage, Early Favourite and Blue Gage were shown in quantity. Of Cherries, the best were Late Duke and St. Margaret, with Morello in variety. Early Peas comprised Jargonne, Beurre Giffard, Des Quatre Jours, and Astrachan and Beauty of Bath Apples (silver-gilt Grafton medal). Mr. G. K. Gladstone (given to Mrs. Abbot, Regent's Park) exhibited a very fine box of Peaches named Royal George, but differing very much from that variety in colour and size. The fruits, of a deep colour, were backed by some stands of Black Hamburgh and Buckland Sweetwater Grapes. The committee in giving the award (a silver-gilt Banksian medal) took into consideration the fruits having been grown in London, and requested the exhibitor to send leaves of the Peach for examination as to variety. A new Plum, a very early roundish yellow fruit named Burbank, was sent by Mr. McIndoe, Hatton Hall. The fruits were in great clusters close on the soil, and the tree has a Willow-like growth, not at all compact. As an early kind it should be valuable. It was now sent to show its free fruiting character. Ripe fruits will be sent to the next meeting.

Two varieties of Tomatoes were staged by Messrs. Cutbush, Highgate Nurseries. They were King of Yellows, a cross between Blenheim Orange and Conference, of delicious flavour, and The Cropper, a seedling from Perfection and Conference, an enormous cropper. Fruited and growth of a new Tomato of deep gold, but lacking flavour, were sent by Mr. W. Handside, Newcastle. The secretary placed on the table Tomatoes which showed half scalped, and the opinion expressed by the majority of members was that it was caused by condensed moisture and insufficient air. Other exhibitors staged Tomatoes, one stated to be a cross with an Aubergine, but it was of no value. Messrs. Rivers, Sawbridgeworth, Herts, sent a white Grape Gradiška, a variety having a clear skin, the bunch tapering, and the berries of nice flavour. A small Pear, Little William, was sent by Mrs. Hicks, Shirley, Croydon. Four dishes of ripe Gooseberries were sent by Mr. Crook, The Garden, Forde Abbey, Chard. A dish of Peach Early Rivers came from the Society's Gardens, Chiswick. It is a large fruit, deeply coloured on one side, and of good quality. From the same source also came Newton Nectarine and Crimson Galanda peach. Melons were shown in quantity, but all lacked flavour. A dish of a new variety of Peas was sent by Messrs. Hurst and Sons, Houndsditch. This was asked to be sent to Chiswick for trial.

New Carnations and Picotees at the Crystal Palace.—A large number of new varieties was staged for recognition at the recent exhibition of the National Carnation and Picotee Society at the Crystal Palace, especially by Mr. Martin R. Smith, who received as many as fourteen certificates of merit for the following varieties: His Excellency, Dragoman, finely edged with purple; Carex, a soft and refined variety; Express Eugenie, Hyacinth, Cupid, Perseus, very striking, heavily edged with bluish bronze; Mrs. Macrae and Councillor, all additions to the yellow ground class; and, in addition, Miss Maud Sullivan, a fine rose or salmon-pink self; Endymion, a pale rose self of the finest quality; Gilda, a pale yellow self, soft and pleasing; Erin, a highly refined white self; and Hidalgo, a variety startling in its distinctness, having a bright pale yellow ground, naked on the petal, edged with crimson and maroon. Nothing can better illustrate the value of Mr. Smith's fine strains than the fact that so many were sent on one occasion deserving of such high awards. Other flowers likewise distinguished by certificates were rose flake Carnation, Crystal Rose (H. Giegge), the bright rose flake being in sharp contrast to the purity of the ground; Verna (M. V. Charrington), a bright and telling scarlet self of fine quality; Alice Mills, a charming yellow ground Picotee, with a medium edge of bright rosy red, very fine in quality

(E. Colby Sharpen); Lord Wantage (T. E. Henwood), a pleasing pale, soft yellow self of fine quality; and a but self, named Mrs. Albert J. Palmer, from the same exhibitor.

NOTES OF THE WEEK.

Carnation Britannia. is a grand border kind and a very superior yellow self, deep and rich in colour, the flowers exquisite in form, and very freely produced.

Carnation Sir John Falstaff.—This is one of Mr. Martin Smith's latest additions to the scarlet or light crimson shades. It is certainly a fine flower, and, apart from its size, possesses a perfect calyx with a grand petal and good form.

Carnation Yellow Queen.—This is among the best of the yellow self kinds, of a shade very nearly akin to that of Germania. It is a free and abundant bloomer, possessing a good vigorous constitution, and producing abundance of material for layering.

Campanula pumila alba.—This neat little plant has been keeping up a display of its pure white bells for some time. In cool and moist recesses in the rock garden, or as an edging to a border among stones it is always pleasing, and once established remains good for years.

Menziesia polifolia alba.—This interesting little shrub and also the type are now quite a mass of rosy-purple and pure white blossom. For a sandy peat and a slightly shaded position they are well suited, forming very pretty marginal plants to such things as Rhododendrons or hardy Azaleas, and making agreeable groups in the rock garden.

Gaura Lindheimeri.—In seasons that are noteworthy for long-continued drought this plant always flowers well, even if not better than at other times. It is a free-flowering plant, easily grown, and when cut its elegant spikes of rose-white are very pretty. The plant is quite distinct in appearance, and a group of it in the border is always effective.

Dia grandiflora.—A large basket of plants from Messrs. Cripps, Tunbridge Wells, of this striking terrestrial Orchid was among the finest exhibits at the Drill Hall on Tuesday last. There must have been something like two dozen of its spikes, and the richly coloured blossoms were very effective. Very few Orchids indeed possess the brilliant colour as seen in the flowers of this plant.

Lilium longiflorum giganteum.—Fine as are the best flowers of L. Harrisii, those of the above variety are vastly superior in point of size as well as substance and purity. It is largely grown at Colchester by the Messrs. Wallace, and a fine group of cut blooms was recently exhibited by them at the Drill Hall. As thus seen there need be no two opinions as to the value of this handsome form.

Calyxigia pubescens fl. pl.—A very pretty climbing or trailing plant, scarcely suited to the ordinary border because of its inclination to travel at the root. In the rock garden or in any position where its roots may be confined to a limited space, the delicate rosy flesh-coloured blooms are very pleasing. In some gardens these things quickly become rampant, and in such cases will need to be exercised in planting it.

Antherosicum Liligo majus.—The one advantage that A. Liligo possesses over the forms of A. liliastrium is that the former is a profuse bloomer and continues to throw up its graceful spikes of snowy blossoms for many weeks in succession. This habit also characterizes the majus form, a large bunch of which was noted in Messrs. Barr's group of hardy flowers on Tuesday at the R.H.S. Both kinds are serviceable in a cut state.

Iris Delavayi, which has just flowered here, is a beautiful and distinct plant if July should be its normal season, that is in a hot summer. We may expect it to be even later, and so it will be most

valuable. In habit and foliage it is a good deal like *I. spuria*, while the flower very much resembles that of *I. decora*, but is larger and brighter. It seems to be distinctly a lover of swamps.—T. SMITH, NEXY.

Veronica longifolia subcespitosus.—The handsomest of all the Speedwell family, bold and distinct in its foliage and stems, and imposing in its stately spikes of bloom. Plants of it have been flowering for some time past, and recent welcome rains have freshened the remaining flowering spikes in a wonderful manner. The intense purple-blue of its flowers in large massive spikes makes it one of the best and most attractive of hardy perennials.

Campanula Hendersoni.—Among the dwarf summer Bellflowers none possess greater merit than this fine hybrid. It is, however, not so easily cultivated as many kinds, and in cold soils more especially is apt to die off in the winter. This is the more noticeable when the plants are pulled to pieces late in autumn. When well grown the plant assumes a distinctly pyramidal habit of growth, and this smothered with its mauve blue flowers is very effective.

Charles Moore, of Sydney.—Mr. Charles Moore, who has been for nearly fifty years in Australia in charge of the Sydney Botanic Gardens, has returned for a season to London on his retirement, and we have no doubt that many of his old friends will be glad to welcome him. Mr. Moore is the author of a valuable flora of the country of his adoption, and as so many of his old friends have passed away, it may be as well to say that he is a brother of the late David Moore, of Glasnevin.

Chrysanthemum maximum filiforme.—There are now many varieties of the above differing but little from each other in their usefulness for the border, and as it is not possible to accommodate so many nearly allied forms where space is limited, a selection will have to be made of the most distinct. Of these the above is one, as the rather formal arrangement of the florets of a ray is relieved by the addition of florets of a thread-like character that renders it more elegant in appearance.

Lilium auratum rubro-vittatum is a grand and striking form, in which the golden band on the centre of each petal is replaced by one of dark crimson, a colour varying in shade according to the age of the blooms, the latter being also freely spotted with crimson. As a companion plant to *auratum* and its varieties, *virginale* and *platyphyllum*, it is well worth the attention of cultivators. Quite recently we have seen some fine forms of it in flower in the exhibitions around London.

Lilium Henryi.—This grand Lily is now finely in flower in the Royal Gardens, Kew, where several groups of it are well established in a bed of evergreen shrubs. There are perhaps a score of its flowering stems, many of these towering to 8 feet or 9 feet high—abundant testimony of a fine vigorous constitution. It is perhaps one of the most profusely flowered of all Lilies, and may be described as a yellow-flowered speciosum, though the foliage is quite distinct from that of the members of this valuable group.

Carnations from Kelsó.—Messrs. Laing and Mather send us a beautiful series of Carnations, among which some of the best are The Pasha, which is a very deep salmon colour; Crombie's Pink, a very pretty rose; Duchess of Fife, certainly a large and handsome rose, not perhaps in shape what would please the present London race of Carnation growers, but beautiful for all that. Ketton Rose seems to do very well in the north. Mrs. Barnswell Elliott is a good salmon. They are well grown, handsome kinds.

D. fontaineana spinosa.—A small flowering plant in a pot was in the group of things from Messrs. Cubыш on Tuesday at the R. H. S. It is indeed unfortunate that so distinct and desirable a plant is not more frequently seen in bloom. The flowers are deep scarlet and not unlike those of

Correa cardinalis in colour, while they are longer and somewhat more tubular in outline. It is a very attractive plant from the Andes of Chili and New Grenada, and has long been known to cultivation. When grown outside it should occupy only the warmest positions.

Campanula pyramidalis alba compacta.—This, shown at the Drill Hall on Tuesday by Mr. Wythes, Syon House, is a beautiful plant and very distinct, the result of year's selection. It is named compacta on account of its compact growth and distinct character. The flowers, pure white, much rounder than in the old form, and of greater substance, are produced in great quantities low down on the plant. For cool house decoration it should be a favourite, as it will be a good companion to the blue variety noticed in these pages in 1892, when exhibited and given an award of merit.

Single Hollyhocks.—Anyone interested in flower gardening might well have a look at the border of single Hollyhocks in the Regent's Park, and then transfer himself to the opulent extravagance of Battersea Park, with its great overstock of tender plants, in no case as effective or happy in colour as that of the usually neglected plant in question. Why should there be this great cost in things which are never really happy in our climate, and the noble families of hardy flowers be almost wholly neglected—Irisies, Delphiniums, See Hollies, and many other handsome plants?

Eryngium Olivarianum.—This is one of the most valuable members of this genus and should be seen in all good collections. Its peculiarly ornamental character is well suited to forming bold and striking effects in the garden, and when at maturity the flower-heads put on their beautiful amethystine-blue tint, these plants are only equalled by few. The effect of a group of this plant is among the most striking that can be seen, and even before the flowering stage is reached the plants are highly ornamental for the sake of their foliage alone. The majority of the species succeed quite readily in a dryish-dug and fairly good soil, and may remain several years without disturbance.

Crinum Powellii.—Some very handsome spikes of this hardy bulbous plant were included in a group of cut flowers staged by Messrs. Cubыш on Tuesday at the Drill Hall. The large rose or pink-flushed blossoms of this plant make it a striking object in the garden. The rarity of such things in the open may possibly be due to an existing doubt of their hardiness. But when such things safely pass the trying ordeal of zero in winter-time with a mere handful of Bracken, which was not a necessity, there need be little fear on this point. To make them safe the bulbs are best planted rather deeply in the ground. In very large pots or tubs the Crinums also make really fine objects in the cool conservatory, and when established will flower well each year.

Androsace lanuginosina.—This charming rock plant is still flowering with its wonted freedom, and appears as fresh and bright as it did in the early part of May. Indeed, in the rock garden at this time fewer plants are in flower, so that such as continue are doubly welcome. This plant is so easily raised from cuttings that a good stock may soon be secured, and with encouragement it quickly makes a good display. The best way is to plant the rooted cuttings a few inches apart, and in this way, by covering a space of 2 feet or so, excellent results may be quickly obtained. This is the more readily accomplished when it is remembered that the season's growth may to a great extent be utilised for the cuttings, which root freely under a hand-light in September. Plant in a bed of fairly rich and deep loam with plenty of grit added.

Lilium Martagon dalmaticum.—For the open border in quite ordinary soil this is one of the most beautiful, particularly when it has become well established in any one position, when it will readily attain to 5 feet high and produce

as many as thirty or forty flowers to a spike. In flower it is most distinct, and perhaps one of the most conspicuous of Lilies, the glossy purple-crimson flowers making it most effective. The variety Catani has flowers of a rather darker hue of colour, and much of the same shade is seen in the recent hybrid Dalmatian. Grouped together these would make a very pleasing display, especially if some bold stems of the pure white Martagon were introduced among the claret-purple-hades of dalmaticum and the others above named. These Martagon kinds are very hardy and of easy culture in good sandy soils with free drainage.

Hybrid Camp-nulas.—A couple of years since I hybridised *Campanula isophylla* alba with the pollen of *C. carpatica* alba in the hope that I might obtain some dwarf intermediate white forms that would extend the summer display in the border when *C. carpatica* varieties had finished flowering. Singularly enough, the seedlings, so far as they have yet flowered, have all been of blue shades, yet possessing a distinct trace of both parents in the flower-stems and trusses. One of the plants has the frail erect flower-stems of *C. carpatica* alba above the leaves of *C. isophylla*, while another has something of the inflorescence of *C. isophylla*, with erect bell-shaped flowers upon a habit more closely resembling *C. muralis*, a plant I do not possess. The curious point of all is that by crossing two such whites all the offspring should be blue. One of these is a great bloomer, and yet only 6 inches high.—E. J.

Lavatera trimestris.—This annual Mallow, with large Convolvulus-shaped flowers of pale rose and glistening white, has been a most attractive note in the flower garden during the past month, the plants growing to a height of 3 feet or more and producing a quantity of blossom. It is, however, when used for indoor decoration that the beauties of the plants are most apparent. Cut at their full length after sundown and at once placed in tall vases, the effect of the flower sprays is a delightful one, the attractions of which increase for three days, by which time all the tightly folded buds will have expanded and the salmon-pink and white flowers extended the length of the curving shoots. The long properties of the blossoms are far greater than their delicacy of petal would lead one to expect, and in this respect they compare very favourably with many of the midsummer flowers whose indoor life is to be reckoned by hours rather than by days.—S. W. F.

Piatycodons.—It is surprising how seldom one sees these beautiful plants in gardens; the finest of all is undoubtedly *P. Mariesii in ius*. My big specimen a day or two ago had forty-two of its immense flower-spikes at one time. The type, hundreds in mass together, produces a wonderfully fine effect. There appears to be a little confusion about the name. One sees *P. Mariesii* and *P. grandiflorum* apparently doing duty for the same thing. *P. Mariesii* is the dwarfish grower of all and distinct in other ways. Its so-called white variety, *P. M. album*, grows a little taller than the type and varies a good deal in the amount of blue with which the white is suffused, but is very beautiful all the same. *P. grandiflorum* here grows about 18 inches high. Then there are its semi-double varieties, the pale or nearly white form and its semi-double variety. A group of several plants of the last peeping from amongst a dwarf Bramble is very pretty. The tallest as grown here is *P. autumnale*, running up to 2 feet, and quite late in flowering.—T. SMITH.

Carnations from Tynningham.—Mr. Brosterhorn sends us a lovely bunch of Carnations from the open air, which show well how happy Carnations are in northern gardens, especially near the sea, the yell-wa being larger and better in colour than the yellows in the south. The best of these he sends appears to be one called Corunna, but Forty-five is also good compared to those we have in southern gardens where the yellow Carnation often produces little effect. Meta, a "Painted Lady," is large and pretty; Sigurd is an excellent orange self; Meteor is also a fine thing in the

same way if it does not burst. It is not the fashion to like purples, but he who sends, Foxhall Beauty, is effective. Hayes' Scarlet is a splendid kind. Mignon is promising, and a rich orange in colour. The Picotees, good as they are, do not persuade us that they are quite good at their gifts, which have hitherto been neglected, and are even now brought in with a sort of apology at our show, but even if all the raisers in England go to work with the Picotees and striped kinds they will never make them so handsome as the self-coloured kinds. The most natural colours of the flower are certainly those that enable us to get the best effects.

An old Yew tree.—In the churchyard of Stoke Gabriel, on the banks of the river Dart, is growing a fine old Yew tree which is apparently still in robust health. Its branches spread over a circumference of about 85 yards, their diameter in one direction being 29 yards. A flat, circular platform of stones, of a height of 18 inches, extends for some distance from the base of the bough, and was probably constructed to prevent injury to the roots. The trunk rises to about 7 feet without a branch, its girth at the height of 5 feet being 15 feet. Great care is evidently taken of this interesting tree, as almost all the main branches are supported by props. The lower branches, and also the topmost, seem perfect, but there has apparently been a loss of some of the intermediate ones, possibly in the blizzard of March, 1891. Local report speaks of the tree as "the largest Yew in England," but in girth of trunk it falls far short of the largest of the Seven Sisters at Fountains Abbey, Yorkshire, the measurement of which is affirmed to be 35 feet, and whose age is reputed to exceed 800 years. I find also that "in 1851 a Yew tree was said to be growing in the churchyard of Gresford, North Wales, whose circumference was 9 yards 9 inches, being the largest and oldest Yew tree in the British dominions." It would be interesting to know if this tree is still in existence.—S. W. F., *Saint Denys*.

Sweet Pea Cupid.—Amid the chorus of adulation which has greeted this discovery, of adulation, however faint, will strike a discordant note, but it is impossible longer to resist the desire of asking the question, "What do we want with dwarf Sweet Peas?" We have been accustomed to lift our eyes and enjoy the beauties of these flowers as they topped a 6-foot-high paling or smothered a tall pyramid of Bean sticks with their many-tinted blossoms. From childhood the Sweet Pea has been the emblem of untrammeled beauty, clothing itself with a scented flower festoon and tendril tied posy after her own sweet and wayward will. Is the Jasmine to be dwarfed, the Clematis to be stunted, that we must look for them with downcast eyes instead of upwards as of yore? In the craving for "something new"—a very old complaint, by the way—the merits of introductions are rarely critically assessed, but I am inclined to think that maturing judgment will remove Cupid from the pedestal on which it has been placed, and certainly trust that never, as a writer in a late number forecasted, may "all the varied gamut of tints of the tall Sweet Peas be represented in the pigmy strain," so that they may be seen "where it is necessary to have compact masses of colour," for then will our unrestricted and seeming Sweet Pea become a straight-waistedcoated "bedding plant," a creature with no will of its own, an association that forms circle, triangles and stars, nor even measures an inch beyond its appointed line, nor varies one iota from its correct shade and is held in bondage, even as the red Geranium and the yellow Calceolaria.—S. W. F.

The weather in West Herts.—The past month has proved a most trying one to vegetation generally in this district, owing to the unusual warmth and dryness of the ground, the great heat of the sun, the dryness of the air, and the great difference between day and night temperatures. The weather lately has, however, been decidedly cooler, the highest reading in shade

being only 75°, while on the nights preceding the 28th and 29th the thermometer exposed on the lawn fell to within 5° of the freezing point. The temperature of the ground both at 1 foot and 2 feet deep has fallen about 2° since the beginning of the week, but is still high for the time of year. On the 26th rather more than a quarter of an inch of rain fell. Although this was the heaviest fall since June 10, the grass on my lawns remains very nearly as brown as it was before—showing how extremely dry the soil had previously become.—E. M., *Berkhamsted*.

PUBLIC GARDENS.

The churchyard of St. Dunstan's-in-the-East.—The Metropolitan Public Gardens Association having laid it out as a public garden, the churchyard of St. Dunstan's-in-the-East was formally opened yesterday by Lady Teynham, who was accompanied by Lord Teynham, deputy-chairman of the association. The churchyard, which contains rather less than a quarter of an acre, is situated in Idol Lane, Eastcheap, the amount spent in laying out the churchyard was £500.

New park, Halifax.—A new park at High Road Well, Halifax, has just been presented to the town by Mr. H. C. McCrea and Alderman E. Robinson. The park, which has an area of 12 acres, and 7 rods, was formerly common land. The Lord of the Manor (Lord Savile) transferred his rights as to minerals, &c., and the Board of Agriculture granted a provisional order for the land to be converted into a park for the benefit of the inhabitants. This work has entailed an expenditure of over £2000.

Fortune Green, W. Hampstead.—Inhabitants of West Hampstead have lately discovered that they possess no public right over the open space in their midst known as Fortune Green, and unless it be speedily acquired and made available for the use of the public, the authorised builder of the speculative builder will take possession of it, to the great loss of children who want a playground, and older folks who like a garden and outdoor recreation. A committee has been formed, with Mr. F. Reeves Torres, of Woodlea, as honorary secretary, to preserve it as an open space, and the Hampstead Vestry have promised to contribute £3000 towards its purchase. This leaves £5000 to be raised by subscription, the price including three cottages and gardens adjoining the green.

VIOLA CONFERENCE.

A CONFERENCE will be held in the Museum, Royal Botanic Society's Gardens, Regent's Park, on Saturday, August 8, 1896, when the following programme will be carried out:—

1. Twelve o'clock (noon)—Introductory address by the chairman, Mr. A. J. Rowberry.
2. Report of special committee re trial of Violas, Mr. R. Dean.
3. Paper by Dr. Veit B. Witrock, Director of the Botanic Gardens, Bergisland, near Stockholm.
4. "Violas for Bedding, with special reference to their adaptability for association with other plants." Papers by Mr. C. Jordan, Superintendent, Regent's Park, N.W., and Mr. J. W. Muirman, Superintendent, Victoria Park, N.E.
5. "Violas for Exhibition, with special reference to newer varieties." Papers by Mr. H. A. Needs and Mr. W. Baxter.
6. "Viola Sports." Paper by Mr. J. D. Stuart-Belfast.
7. Report of judges of seedlings submitted to the conference. It is particularly requested that new varieties be sent for consideration. A spray or bunch of no less than six blooms of any new variety should be staged. All new varieties must be staged for inspection by eleven o'clock, so that they may be judged when quite fresh. Any

blooms sent by post must reach the Royal Botanic Gardens on the morning of August 8, addressed to Mr. J. B. Sowerby, Secretary, Royal Botanic Gardens, Regent's Park, London, N.W.
8. Consideration of arrangements for 1897, and election of officers.

OBITUARY.

Death of Mr. John Ewing.—A Sheffield contemporary says: "Many habits of the Botanic Gardens in the old days will hear with regret of the death of Mr. John Ewing, who for more than thirty years occupied the responsible post of curator there. Mr. Ewing was a native of Fife, and before he came to Sheffield held a very good position at Kew Gardens. He was well known among the leading gardeners and nurserymen of the country. A few years ago he retired, with the promise of a pension from the authorities at the Botanic Gardens. It was, unfortunately, discovered after his retirement that the payment of the pension money was illegal. Mr. Ewing, who was 83 years old, leaves a son and two daughters."

Cracked mud edgings in Finsbury Park.—The flower beds at Finsbury Park show an example of the ill-effect of these edgings, which we are glad to see have been given up, and none now remain in Regent's Park. Just now in the best trees at Finsbury all are cracked and gaping to the sun and wind. In half a year or any year it is madness to cock the beds up on a little wall like this, and the idea could only have grown out of the mind of a mechanic and not a gardener. The proper way to make a flower bed is to let the earth slope gently down to the margin.

Hand-weeding.—This operation is regarded by many as too tedious and unprofitable, and is seldom had recourse to save in *extreme cases*, such as cleaning rows of Osmunda and other grown crops. I find, however, that it is often time well spent, and that time is gained and damage frequently prevented by adopting the system amongst herbaceous and hardy plants where it is very difficult to use the hoe effectively, especially in a moist time when weed growth is very speedy. When the hoe is entirely depended upon for up-rooting them in such close quarters, many are wholly or partially covered with soil, and, despite raking afterwards, remain concealed and retain their vitality, no matter how hot the weather is, springing into renewed vigour immediately rain falls; whereas if hand-weeding precedes the hoe, the latter tool and small rake following, the process certainly takes longer, but cleanliness will be preserved for double and treble the time. Where there is ample room to work the case is different.—J. C.

Trapping cockroaches.—In some glass structures, notably Orchid houses, Pine stoves, and Melon houses, these pests are very annoying, the amount of mischief one or two of them will work in a few nights being quite astonishing. Many methods of extermination have from time to time been recommended, but I find nothing more effectual than phosphorus paste besmeared over small pieces of bread and butter and laid at evidence about their haunts. The smell seems to attract them, and they feed upon it greedily. They sometimes attack my Melons growing on pot plants plunged in the Pine house, in which case I surround the base of the stem with cotton wool, as it is by these they usually ascend. If the inner or unglazed surface of the wool is turned outward, they seem shy at traversing it, although they are capable of springing a long distance. The same method succeeds them when they attack the Potatoes. The paste is just as good for taking woodlice, and beats the old-fashioned method of laying hollowed-out Potatoes amongst the plants. The baits should always be taken up during the day-time, or they become dry and useless. Renewal is necessary about every third day.—J. C.

No. 1290. SATURDAY, August 8, 1896. Vol. L.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare.*

ORCHARD AND FRUIT GARDEN.

MANAGEMENT OF STRAWBERRY PLANTATIONS.

WITH the exception of the late fruiting varieties growing on cool north borders, the Strawberry crop of 1896 is nearly over, and a very abundant one it has proved, in many cases far exceeding expectations. Not only have the berries been plentiful on each individual plant, but they have also been unusually large where the plants have received a sufficient amount of moisture at the roots, and last, but by no means least, the flavour has been very superior, and the colour all that one could desire. I never remember seeing Keens' seedling so large before as it has been this season, and the size and colour of that fine old well-tried variety Sir J. Paxton have been magnificent. I have heard one or two complaints this season about the colour of Royal Sovereign not being good. With me it coloured well, and when the fruits were sent to table they were pronounced to be of first rate flavour. This variety I have propagated extensively, every procuring runner having been layered into a small pot. When well rooted these will be planted out on a warm, sheltered piece of ground for supplying the earliest crop next season.

Now that the majority of the fruits have been gathered, layering should be pushed on in earnest to secure the required number of the strongest runners at once, with a view to getting them planted out early and thus ensure a good crop of fine fruit next season. Layering may be done either by employing 3-inch pots filled with rich soil into which to peg the runners, or soil may be placed between the rows to peg the runners down to. The former method gives the best results, but should not be attempted unless sufficient labour is employed so that they can be kept regularly watered until rooted sufficiently for removal. Early layered plants can always be depended on for giving a good crop of finely developed fruits the first year, and a whole season is thereby gained. This is a great consideration, and is ample compensation for all trouble and labour involved in the layering into pots and subsequent attention required in keeping the soil moist for the runners to root quickly into. Young plants merely pegged down into soil placed between the rows will give a good account of themselves if lifted carefully and transferred at once to the site they are to occupy as soon as well rooted, but they will also require more attention than pot plants for a time if the weather should prove hot and dry, and should have two or three good soakings of water. Many plant the naturally rooted runners as found between the lines of old plants, but of course a crop from these plants is not looked for, and the ground between the rows is generally cropped with something else the first season. Whichever method of propagation is adopted, the previously ascertained required number of runners should be secured in order that the plants which are to be retained for another season may be trimmed and put in order. My own practice is to break up the beds after fruiting the third time; consequently there is always a large breadth (about one-

third) to break up each year, and the planting of new runners annually on fresh ground is also carried out in sufficient numbers to keep up the supply. There is one exception to this rule, and that is fine late kind Oxonian, which I have to treat as a biennial on account of its not yielding any fruit worth speaking of the third year. This I grow on north borders; consequently it does not interfere with the arrangements made regarding the other varieties. It is an excellent plan to change the site for Strawberry plantations as often as is convenient. Change of stock is also to be recommended even if it is only the same variety. This generally leads to good results if the plants are procured from a reliable source. The preparation of the site selected for forming the plantation should be taken in hand as soon as layering is finished, and the soil will then have time to settle down somewhat before planting is done. When

SELECTING THE GROUND

for planting Strawberries, it is always best to choose soil that is inclined to be heavy than otherwise, but it should be well drained. Light soils may be made more suitable for Strawberry growing by the addition of loam of a heavy texture or road sidings. This should be well dug in and thoroughly incorporated with the staple. I prefer giving naturally light soils such a dressing as described instead of applying quantities of manure. Heavy soils, on the other hand, are greatly benefited by being well manured, and the manure should be thoroughly decomposed. Another thing to be avoided when choosing a site for a Strawberry plantation is to ignore low, damp situations, for although the Strawberries may succeed in a season such as the present, in the generality of seasons they would fall a prey to mildew, and the fruit would rot in a wet time. The digging done, matters may be left alone until the plants are ready for setting out, and then the soil should be made quite firm by trampling it evenly all over previous to planting. This will thoroughly consolidate the soil and make a good firm bed for the plants to root into, and it will also in a great measure prevent the plants being thrown out or lifted by frost during the winter months. Some few hours before planting, the young plants should be well watered, and it is also a good plan to water them home directly the planting is completed. A trowel should be employed for setting out pot plants and pegged-down runners, and the soil must be made very firm about them. Runners taken from the plants without preparation may be dibbled in if time and labour are an object, but they should be made very firm or numbers will be lost during the winter. The latter method of planting is more generally pursued by market growers than by private gardeners, and however well it may answer for market work, it is not to be recommended for private places where crops of fruit are expected the first season. On light soils a much of spent Mushroom manure or such-like material spread round about the fresh set-out plants is of great assistance in preventing them drying quickly and needing so much water. On heavy soils, which naturally retain more moisture, mulching is not so essential.

The usual distance for planting Strawberries is 2 feet between the rows for gardens and 3 feet for field culture, and the plants may be set out 18 inches apart. If planted closer than this, every other plant would have to be lifted the second season. As soon as the required number of runners is obtained for planting, the old plants should be trimmed up, cutting away all the older leaves and runners and raking off the mulch. A slight hoeing is generally required

to free the ground of weeds, but beyond this the soil should not be disturbed. Those who are fortunate enough to have plenty of manure at command may give the ground a dressing between the rows. This will encourage the production of fresh growth and roots, and the plants will make ample foliage, which generally winters well. After this trimming up all runners should be suppressed, it being a good plan to look the plantations over every week, when every runner showing should be cut off. Weeds should also be kept down either by hoeing or hand-weeding.

A. W.

Melon The Lady.—I have grown this Melon this year, and am much pleased with it. It is a free-bearing and robust-growing kind, the fruits when ripe being of medium size and pale yellow in colour. The flesh is deep, of a greenish red colour, and the flavour, which after all is the principal criterion in a Melon, is most luscious and worthy of cultivation where medium-sized, high-flavoured Melons are in request.

Notting Apples and Pears.—Fruit growers are sometimes vexed by their finest specimen Apples and Pears grown on espalier and horizontal cordons falling to the ground and getting bruised so as to render them useless for keeping. Exhibitors are especially tried in this way, as sometimes a young tree may not have more than a dish of fruit on, and if only one falls the dish is spoilt. The best safeguards consist in the small square nets sold by various sundriesmen for supporting Melons. One thing necessary to observe in tying on the nets is to allow a fair space between the net and the fruit, so as the latter can expand without undue pressure, otherwise the print of the net will be on the fruit when gathered.—J. C.

Melon Duchess of York.—This variety of Melon I also tried, in company with the above, and found it to be almost if not quite equal to it in merit, the only drawback being the colour of the flesh, which is of a yellowish tint. As a rule, I find most consumers of Melons prefer either the green or scarlet-fleshed kinds, and do not take kindly to the white or yellow-fleshed Melons. In this particular instance the objection may be overruled, as the flavour is certainly first-rate. The fruit attains a larger size than that of The Lady, and is beautifully netted and much like Hero of Lockinge, which is said to be one of its parents, Best of All being the other. It is a very free cropper and a good grower, two excellent recommendations. Both this and The Lady, I should imagine, would prove excellent Melons for growing in large pots in Pine stoves or similar structures, as they possess such vigorous constitutions, and would no doubt do with a less amount of bottom-heat than some kinds.—A. W.

Poultry in Apple orchards.—I was extremely interested in reading the article under the above heading in the issue of THE GARDEN for July 25, especially that portion of it dealing with the advantages to be derived from allowing poultry a free run in Apple orchards. The experience there narrated corresponds in a great measure with my own, as I have had several orchards under observation for the past few seasons, and can confidently state that in no case the attack of caterpillars and such-like has been very much less severe that year than in other orchards from which the poultry are either excluded or where none are kept. The orchards are all grass orchards, and in every case the fowls run about at pleasure among the trees the whole day long both in winter and summer, and in one instance so many are there kept that hardly a blade of grass is to be seen during the summer months. The fowls turn the soil over after the grass has disappeared in search of food, and do an almost incalculable amount of good in destroying insects and grubs of all kinds. In this particular orchard it is seldom that the trees miss carrying good crops of finely developed fruit, and the Blenheim Orange, Seck No Further, and other

varieties would take a great deal of beating were they exhibited. In addition to destroying insects and grubs, the orchard becomes well manured during the year, which has a most beneficial effect on the trees, and serves to maintain them in good health and a free bearing condition, so much so that they need no assistance in this direction. I am firmly convinced that where grass orchards exist poultry would do much towards destroying many of the foes that beset the fruit grower at the present day if kept in sufficient numbers to visit every part of the orchard; they may be turned into, and portable poultry houses are now so cheap, that the fowls may be housed every night on the spot where the orchards are situated, so saving trouble from the famished crows, as the case may be. These portable fowl houses are generally mounted on wheels, which affords a ready means of transport, and the fowls can then be transferred from one orchard to another at pleasure when it is considered they have been in long enough, and without much trouble.—A. W.

PEACHES AND NECTARINES FOR AMATEURS.

AMATEURS, as a rule, have not sufficient accommodation for planting Peaches and Nectarines of capricious characters merely for variety's sake, their usually limited glass structures forcing upon them the necessity of growing only those varieties which have been thoroughly well tested and profitable. The market grower's selection, in fact, is just what the amateur wants—which invariably consists of those sorts which seldom or ever miss a crop, mere size of fruit being only a secondary consideration. To those who possess only one house, varieties which follow each other in the order of ripening are important, as, with a judicious selection, a supply of fruit for a period of several months can be had. For earliest gatherings Amsden June may safely be planted, as this is doubtless by far the best of all the American Peaches, at any rate in the matter of setting and freedom from falling during the stoning period. The heat given by amateurs to their Peach houses would suit also Alexander and Waterloo—two other American varieties—as it usually amounts to little more than that produced by the sun's rays, and that is just what these require. It is when started very early and subjected to a maximum forcing temperature that failure is to be apprehended. Where room is limited and extra earliness is not desired, Hale's Early may be planted, this being a good all-round Peach of the early type. Meridian must be used, however, of the fact that it requires artificial fertilisation when grown under glass, and when this is given it never fails to bear well. Stirling Castle and Violette Hâtive are both excellent Peaches, ripening about the same time. The former is a good Royal George in most respects, but is safer in houses where little or no heat is employed, and especially in wet, sunless seasons not being subject to mildew, as Royal George unfortunately is. Where the planter is anxious to exhibit a magnificent Peach of the same season is Dagmar. This not by any means new Peach is, strange to say, seldom heard of. It has a grand constitution, is similar in size to Stirling Castle, but under full exposure colours as highly as Crimson Galande. That good old Peach Bellegardo is unsurpassed for carrying on the supply, it being not only of all-round good quality, but an unfailing cropper, even under rough-and-ready treatment. For later gathering, the Nectarine Peach, also comparatively little known, and Sea Eagle, grown now by almost everybody, complete a short, but very reliable list of Peaches for amateur growers. The Nectarine Peach is very large and luscious and is very free, while Sea Eagle, which belongs to the pale-skinned section, is so good, that it would be hard to name another Peach ripening at the same date equal to it.

Turning to Nectarines, I may perhaps be considered old-fashioned for advising the planting of Hunt's Tawny, but I know of no other Nectarine

which bears such continuous and heavy crops and few that ripen earlier, which is saying a good deal. It belongs to the yellow-fleshed class and of good flavour. A tree of Early Rivers should also be included, as this new Nectarine, in addition to producing large fruit, is a very free cropper. Experience, I think, has proved that Lord Napier, although fine when seen at its best, is not at all reliable under glass, its constitutional defect being shrivelling just as the fruit is ripening. I have it both in a lean and span-roofed house, neither of which is forced early, and a portion of the fruit is always shrivelled, and that in spite of timely root shading. Some gardeners, however, grow it well. Splendid examples of it have been shown by Mr. B. W. Trenham, the low-lying moist position of the garden seemingly assisting it. To follow on, River Orange and Humboldt must be named, both are of the yellow-fleshed section, and where room is limited both need not be planted. The former is, perhaps, the best bearer. The latter, a seedling from Finsapple, is rather larger and possesses all the good qualities of that well-known Nectarine. Stanwick Elrige is fine for a cool house, but is very liable when forced to cast its fruit at stoning time, for which fault it was discarded both at Thoresby and here. Little need be said about it, except that it is as good in quality as the old Elrige and is a size larger. For later supplies Spenser and Newton are both excellent, the latter growing and fruiting grandly each year in an east aspect house a mile from here. That fine-flavoured, but capricious Nectarine Victoria should not be planted except where high cultivation can be given, as in nine cases out of ten it is disappointing.

Many more good varieties exist, but I do not think the above-named can easily be superseded where there is only room for a limited number of trees.

J. CRAWFORD.

Apple Beauty of Kent.—It is to be regretted that there are several sorts of Apples in cultivation that pass under this name, one in particular that is something more than Hubbard's Pearmain. The most distinct feature in Beauty of Kent is the growth of the tree, which when cultivated as a standard has a spreading flat head. This description will show at once that it is not suitable for a pyramid; as a matter of fact, it cannot develop its free fruiting character if grown in any form that necessitates bare pruning. It is only when cultivated as a low spreading bush that its regular and prolific character is shown. My trees are in this form. All the pruning they get is to thin out the weak wood, shortening an unruly branch sometimes. Under this treatment the tree bears heavy crops every year. The fruit is large and handsome and not to be despised for dessert. When the fruit is thinned out early and freely it develops to a large size and will keep well until March. Where space is at all limited I should place this variety first on the list of keeping sorts.—C. C.

Peach Hale's Early.—“S. M.” (p. 477) speaks very highly of this variety for early forcing, and states that with him it is quite free from the evil propensities of some early varieties of casting their buds. I am sorry that my experience of Hale's Early under glass does not coincide with that given by “S. M.” and so far I have failed to get even the third of a crop from a large healthy tree that was lifted from the open wall four years ago, and was with several others planted in a span-roofed house. The first season after removal a fair crop was produced, considering the check given to the roots, but since that it has been a failure, as most of the buds have dropped as soon as the tree showed signs of growth in spring, while other varieties in the same house have set double the quantity of fruit they could carry to maturity. In this case it is not a high and too dry temperature from fire heat that is at fault, as the trees stand very gradually, the fruit not being required until the middle of June, and watering is carefully attended to. This tree, growing on an open wall, produced good

croops before removal, and showed no signs of casting its buds. As an outside Peach it is large and well coloured, but the quality, compared with that of Grossé Mignonne, Stirling Castle, and other standard varieties, is only second-rate, and the peculiar way in which the skin parts or cracks at the apex of the fruit about the time of ripening, causing speedy decay and free ingress to attacks of insects, is much against it. In a drier climate than this the latter defect may not be prevalent, but as it has been proved here, I consider Hale's Early a very much over-rated Peach.—J. DAY, Galloway House, Garliestown, N.B.

MANURING STRAWBERRY BEDS.

It is more than thirty years ago that the question was raised in my presence as to which was the best time, spring or autumn, to manure established plantations of Strawberries. The question was raised by the late Mr. B. W. Knight, nurseryman at Battle, Sussex, who was not only a grower of this fine fruit for market, but a raiser of new varieties, as he distributed a new kind named Princess of Wales, which for some time proved to be a useful early fruit. The members of this fact will serve to show that Mr. Knight was interested in anything that related to Strawberry culture. On hearing from him the principal points of the system of culture he pursued, I was surprised to learn that he had a well-grounded objection to manuring Strawberry beds in the autumn. His reason was, that by doing so it excited the plants at a time when they should be going to rest. More than that, it was the cause of the plants producing many more leaves than otherwise would be the case. As a consequence the fruit did not get all the sun and air that were necessary to ripen it properly. Since that time I have had to deal with a variety of soils, and I have only in part found Mr. Knight's arguments hold good. In fact, this question of autumn *versus* spring manuring can only be decided by the character of the soil, and whether the plants are set out thinly, and to some extent the habit of the sort grown. When dealing with the deep fibrous loam in a garden adjacent to Wimbledon Common before I had had time to learn the character of the soil, I certainly found that spring manuring was more satisfactory than when done in autumn, as the number of leaves produced by such sorts as President and Sir Charles Napier necessitated the removal of some of them from the centre of the plant to enable the sun's rays to reach the fruit. Later on the difficulty was overcome by setting out the plants further apart.

In making a new garden eight years ago I made another mistake in planting too thickly—2 feet between the rows and 18 inches from plant to plant in the rows. The land being good and fairly well manured in the autumn, I had to remove one-third of the leaves from the centre of each stool, or I should have had but few fruit. Now I do not manure at all either in spring or autumn, destroying the plants after taking two full crops. I, however, thoroughly manure and dig the land before planting, and I have increased the distance of such sorts as produce a large number of leaves. I question if sufficient attention has been paid to the selection of varieties that produce only a moderate number of leaves for gardens of limited space, because it is not the vigorous growers that always produce the greatest number of flower-trusses. We have proof that there is such a distinction, even if we do not go any further back than the introduction of the two comparatively new kinds, Sensation and Royal Sovereign. In so far as I have seen, the former

sort is a much more leafy plant than the other, and therefore should be given more space. Even then I do not think it bears so well as Royal Sovereign. This question of too many leaves is undoubtedly greatly influenced by the type of application and character of the manure used. At one time I used to apply soot and lime to the beds in the spring for the purpose of destroying vermin, which I believe it did to a certain extent, but after a year or two I had to discontinue the soot because it had a tendency to increase the number of leaves without adding to the fertility of the plant.

I have for some time thought the question of manuring Strawberry beds is of more importance than many people imagine. I feel satisfied that in the majority of private gardens too much manure is being used. To use it liberally and dig deeply when preparing the ground is, I admit, a necessity, but any further application of solid manure to plants that will be destroyed when they have produced the second or third crop is a mistake when the staple soil is moderately heavy, and in the case of light ground it will be better to make fresh plantations every second year. We all know that young plants produce finer fruits than old ones. For this reason I contend that it will pay better to use the manure for making fresh beds than to apply it to strengthen old ones. Some cultivators say that a mulch of manure laid on in the autumn affords some protection to the plants. This, I think, is an erroneous idea, as I have never known unprotected plants of moderate size injured by frost, but I have seen old ones disfigured by it when the surface of the ground has been covered with half rotten manure that retained sufficient moisture to form sheets of ice.

J. C. CLARKE.

WOODS AND FORESTS.

OAKS.

It has been stated by Dr. Schlich that "Oak timber is the most valuable of the indigenous species." The following notes, so far as they are purely local, refer especially to the Weald of Sussex—Hants, where Oak is largely grown. Although timber merchants pay more for certain kinds of Oak than for others, owners of Oak woods apparently seldom trouble to exclude comparatively worthless forms. In the Weald of Sussex two well-marked forms are generally recognised under the names White Oak and Fir Oak. The names appear to correspond fairly exactly to the botanical names *pedunculata* and *sessiliflora*. A local timber dealer of forty years' experience in the Weald states that he generally gives about 2d. per foot (round measurement) less for Fir Oak than for White Oak. The Fir Oak is said to contain too much sapwood and too little heart-wood, which defects render it less durable. Another timber dealer in the Weald, who also buys extensively in the New Forest, considers that Oaks in the latter district have a tendency to form too much sapwood, which tendency he attributes to the sea air. But why this should cause an increase of alburnum, or what is commonly called sap-wood, is not very obvious. Nevertheless the fact remains, according to the authority referred to, who states that he pays less per foot for New Forest than for Wealden Oak. In some cases owners are apparently unaware that they own more than one kind of Oak. The Fir Oak is a handsome tree and it would be a pity to condemn it, but the objects of a forest and of a park should not be confused. In Continental forests

great care is exercised. In the national arboreta and forestry institutions of Belgium, France, and Germany experiments have been made in the introduction of American, Japanese, and other exotic species of Oak. The Red Oak of Texas (*Quercus rubra*) has proved successful in Belgium, and so has the Water Oak of Missouri (*Quercus palustris*). Both of these are growing at Kew. The beautiful Scarlet Oak of Florida (*Q. coccinea*), which likes a clay soil, and the Black Oak (*Q. tinctoria*), which extends from Massachusetts to Tennessee, have been grown in Belgian forests, but hitherto with disappointing results. The common American White Oak (*Quercus alba*), which extends all over the Eastern States from Massachusetts to Florida, has also apparently given inferior results in Belgium.

Altogether there are in the world about 300 species of Oak. Of these we have only one unquestionable species indigenous to Great Britain, *Quercus Robur* (L.), with its two varieties, *pedunculata* and *sessiliflora*. Alphonse de Candolle enumerated 281 species of Oak for the whole world in his monograph of *Quercus*, published in "Prodromus" in 1864. Since then King has monographed the Indian Oaks and enumerated 82 species, including some new species not enumerated by De Candolle, and excluding a number of dubious species. Oaks extend over the whole of the northern hemisphere excepting the extreme north. Southwards they pass the Tropic of Cancer into the Moluccas and in the west along the chain of the Andes. Outlying forms are recorded from the mountains of Mexico, from Guatemala, and in the east from Java. Though there are 82 species of Oaks in India, there are none in the adjacent island of Ceylon, and though Oaks abound in Central America and Florida, there are none in the British West Indies. Two specimens introduced some years ago to Jamaica to a comparatively cool climate in the Blue Mountains at an altitude of 5000 feet look more like diseased Crab Apples than Oaks. Of the native American Oaks, Sargent enumerates thirty-six species in his "Forests of N. America." Unfortunately, there is no monograph of the whole genus *Quercus* more recent than that of De Candolle (1864). As regards the number of species in the world, no doubt Durand, following "Genera Plantarum," is well within bounds in estimating the present total as at 300. Upwards of fifty of these appear to be growing at Kew.

Foreign species have long been successfully introduced into England; for instance, the Evergreen Oak (*Quercus ilex*) from Southern Europe, the Cork Tree (*Q. Suber*) from South-western Europe, the Turkey Oak (*Q. cerris*) from South-eastern Europe, the Red Oak (*Q. rubra*) and some others from N. America. Most of these may be seen in the Oak collection at Kew. Of the handsome Turkey Oak (*Q. cerris*), there is a good specimen at the south end of the Rhododendron walk, and there are a number of younger specimens of the same species in other parts of the arboretum. The Cork Tree (*Q. Suber*) grows well in England. There is a fine old specimen in a private park in Sussex loaded with cork and exhibiting no emphatic desire to return to the warmth of Spain and Tunis. In Tunis, where all forests belong to the State, of the total forest area (415,000 hectares) Oak occupies 194,000 hectares, and of this total no less than 115,000 hectares appear to be under Cork Oak. As there is no immediate prospect of an abolition of the use of corks in England, Scotland and Ireland, perhaps we might grow our own corks, bungs and life-belts instead of importing them in large quantities from Spain.

Apparently fine old Cork trees exist in a number of private parks in England. There seems to be one at Kew, possibly more than one, for many of the specimens have no label or are labelled indefinitely "Quercus sp." Turning now to

BRITISH OAKS,

we may reject the old view that there are two species of Oak native to Britain. It will be better to accept the view of Sir J. Hooker in the "Student's Flora," and of Bentham and Hooker in the "British Flora," according to which Great Britain possesses one species only, *Quercus Robur* (L.), comprising two extreme forms, varieties, or "races," as Bentham and Hooker cautiously term them, with the names *pedunculata* and *sessiliflora*. The species *Q. Robur* (L.) extends over the whole of Europe, except the extreme north, and penetrates along the chain of the Caucasus some distance into Central Asia, although further north it does not cross the Ural. Sir Joseph Hooker records it from the Atlas Mountains. It is also found in Syria. *Q. pedunculata* is the more common variety in England and the lowlands of Scotland up to Sutherlandshire. Although mainly a lowland tree, it is recorded at an altitude of 1500 feet in England, 1350 feet in Scotland, 3000 feet in the Alps, and 3000 feet in the warmer climate of Greece. The Sessile Oak, on the contrary, is the commoner variety in North Wales and the hills of Northern England. Nevertheless, it is more southern than *pedunculata*, and, according to Dr. Schlich, "does not go beyond the 54th degree of N. Lat.," yet it rises higher in the hills and is found at altitudes of 4000 feet in the Alps and more than 6000 feet on Mount Etna. In the south of Europe it is a tree of the low hills, but in the north, like *pedunculata*, it is a tree of the lowlands. In the Weald of Sussex, where it is less common than *pedunculata*, there are, nevertheless, a good many hundred specimens.

The majority of the Oaks in Hyde Park, Regent's Park, Richmond Park, and the old arboretum at Kew are *pedunculata*. It is difficult to find a specimen of *sessiliflora* in the neighbourhood of Whitehall. Both kinds are too impatient of London fog to be planted as street trees. For this purpose the Pinus is as successful in London as the Lime in Berlin and *Thespesia populnea* and the Guango in the tropics of east and west. Such names as "Royal Oak" and "British Oak" Taverne survives only to remind us that before the days of bricklayers' improvements even London was inhabited by Oaks. Dr. Schlich in his "Manual of Forestry" states that

The Oak requires warm air; it suffers from late frosts, but not so much as Beech, as it sprouts later in the spring. It also suffers from severe winter frosts. It is a light-demanding species, which should have its head free to the full enjoyment of light. It does not require much moisture in the air. It is more storm-firm than any other species. The sessile Oak requires somewhat less warmth in the air than the *pedunculata* species; hence it goes higher in the mountains. Oak requires a soil which is deep, at least, fresh, warm and fertile. It accommodates itself to moist soil, and is not sensitive as regards inundation. Fertile, loamy soils cause its highest development, but it is also found on clay and on sandy loam, if it is sufficiently moist. On the whole, it is the most exacting indigenous species. It thrives better on southern than northern aspects. The sessile Oak is somewhat less exacting as regards fertility, and requires a little less moisture in the soil; hence it is found in poorer and drier soils than the *pedunculata* Oak. If grown as coppice the Oak is less exacting than if grown as a timber tree. . . . The Oak is principally regenerated by sowing and planting, or by stool shoots in

copies, less frequently by natural regeneration by seed.

Some of the above statements are very questionable. For instance, it is difficult to reconcile the statement that "the sessile Oak requires somewhat less warmth in the air than the penduculate species; hence it goes higher in the mountains," with two previous statements in the same volume to the effect that the penduculate Oak extends "all over Europe up to the 60th degree of N. Lat.," and the sessile Oak "does not go beyond the 54th degree of Lat." Even if the reverse were true, it would still be dangerous to assert that "the sessile Oak requires somewhat less warmth," &c., when the evidence of that supposed fact is so meagre. The causes of distribution are often so complex, sometimes so utterly inexplicable, that it is rash to jump to a conclusion from merely geographical data. Dr. Schlich states that for the botanical part of his work he follows Hooker's "Student's Flora." In spite of this announcement, the old notion of "two species" crops up. Fortunately, at the end of Dr. Schlich's volume some "botanical notes" are added as an appendix, and written by Professor Marshall Ward, who adopts the view now generally accepted. In both of the standard modern books, the "Student's Flora" of Sir Jos. Hooker and the "British Flora" of Bentham and Hooker, and in the "Index Kewensis" the modern nomenclature is maintained, not of course arbitrarily, but simply for the sake of convenience and consistency. *Quercus Robur* (*L.*) is the only species recognised as British, and the old names *Q. pedunculata* and *Q. sessiliflora* are abolished as species and reduced to the position of varieties of *Q. Robur*. Nevertheless, one still sees numbers of Oaks at Kew labelled *Q. pedunculata* and *Q. sessiliflora*, in accordance with the antiquated nomenclature. Numbers of specimens of *Q. Robur* at Kew have not the name *Robur* at all on their label. Uninitiated visitors to the gardens are puzzled at the discrepancy between the standard books and what is supposed to be a standard living collection. They regard with awe the occult knowledge of botanical freemasonry and wonder whether a British Oak is really a British Oak. The labels at present are merely confusing and give a name which is neither scientific nor popular. The best plan is to ignore the labels and follow the "Student's Flora."

Dr. Schlich describes the two forms of English Oak as follows:—

The shape of the sessile Oak differs somewhat from that of the penduculate species. Its branches tend upwards and are less gnarled and knee-bent.

As regards those that I have seen in Sussex it will be impossible, without using botanical terms, to give a more accurate and concise description of their difference. C. H. R.

SOILS AND PLANTS.

The relation between vegetation and the nature of soils is one of the most indisputable facts of phytostatics; it was known even to botanists in ancient times, and Linnaeus expressed it in an aphorism in the *Philosophia Botanica* as follows:—"Dignoscitur ex sola inspectione plantarum subiecta terra et solum." This relation, however, has never yet been interpreted as it should be. In almost every number of treatises on botany we find it repeatedly stated on the authority of Thurmans that the chemical influence of the soil on the dispersion of plants takes effect only when the soil contains salts of a very soluble nature, such as marine salt and ammonia salts, and not in the case of carbonate of lime and alkaline silicates. It is not necessary to enter into a long dissertation in order to prove the falsity of this doctrine; it is sufficient

to define the terms, physical action and the chemical action of the substratum. The physical action is dependent on the manner of the aggregation of the rocks, i.e., their compactness either as regards hard solid rock and rocks in marly or clayey beds, or as regards rocks in motion—that is to say, in the form of gravel and sand. Something depends also on their calorific capacity, on their hygrometric degree, and, in the case of submerged rocks, the depth of the water, and whether still water or current is in motion, and in finding all the circumstances which exercise an intrinsic influence upon plants. The chemical action is intrinsic and exclusively dependent on the elementary component parts of the substratum. The essential condition is that penetration of the vegetable organism by mineral or organic substances in the soil which have been previously dissolved in water takes place. This solution of substances useful to the life of plants is often preceded by reactions, which modify the grouping of the elements. Such reactions are chiefly produced in calcareous and mixed soils, in which the presence of carbonate of lime is favourable not only to the transformation of the organic matter in the soil—ammoniacal and nitrate salts—but also to the decomposition of the natural silicates and the discharge of the potash. This is the reason why finely calcareous soils are the most fertile, and why flinty soils only bear hardy plants and plants that demand little in the way of food. The practice of applying lime is an illustration of this. Farmers are aware that clayey and flinty soils can be made to produce crops of siliceous fodder plants like the Carnation Clover, the meadow Clover, Sainfoin and even Lucerne, where the arable bed is deep enough, by means of a yearly application of 5 hectolitres or 6 hectolites of lime per hectare.

Thurmans doctrine rests upon an erroneous distinction between the mode of action of salts that are very soluble in water (chloride of sodium, ammonia salts, nitrates) and matters that are scarcely soluble in the same liquid, like the carbonates of lime, magnesia, phosphate of lime, silicate. Now evidently the quantity of the substance so dissolved makes no difference to the essential nature of the phenomenon, but merely its intensity. Moreover, it must not be forgotten that telluric waters contain especially such as have passed through masses of vegetation—*dilute*—carbonic acid and ammonia salts, which, with the acid juices exuded from the roots, contribute to the augmentation of their dissolvent power as regards the said salts of lime and natural silicates, and, as the absorption by the roots is continuous, the plants in the long run receive in considerable quantities the mineral substances which are necessary to their life. A regular crop of Clover or of Lucerne carries away annually some 400 kilograms per hectare of mineral substances, chiefly lime and potash, along with a much less amount of magnesia and phosphoric acid. Chara literally gorges itself with carbonate of lime even to indigestion point, and in the ashes of this plant 60 to 65 per cent. of this soil will be found. Equisetum does the same in regard to silicate, and the ashes of this plant are found to contain 60 to 95 per cent. of the acid. Among the Grasses the silicate concentrates in the stalk, whilst the lime phosphates and magnesia phosphates accumulate in the seeds.

It is not possible to enter here into all the considerations of the subject; nevertheless we believe we have sufficiently demonstrated that not merely the plants undergo the physical action of the substratum, but that their nutrition is influenced by the chemical composition of the substratum as well. Thurmans himself, towards the end of his book, appears to have become conscious that he had taken a false line, and he foretells his critics in foretelling the fate of his work. "In any event," he says, "and should the present work fail to establish the soundness of our negation relative to the chemical influence of submerged rocks, it will have at least the merit of having brought together the numerous and irrefragable proofs of the capital action of these rocks in the sphere of phytostatics."

The question of the chemical influence of rocks in the dispersion of plants would not have given rise to a controversy so prolonged if all the vegetable species had been either exclusively calcicole or exclusively silicicole. That this is not so is well known, as also that a great number of them are cosmopolitan as regards soil. Such inequality of temperament among things so alike as regards organisation has had the result that botanists, who more often study plants in the herbaria and in gardens than in the natural stations, have come to consider as of little importance, as particularly exceptional the preference shown by certain species for such or such a soil. It has been alleged that observers are not agreed as to the preferences of certain species, in forgetfulness of the fact that among those botanists who have written upon this question of phytostatics a good many had not the geological knowledge which was necessary to enable them to arrive at a just appreciation of the nature of the soil.

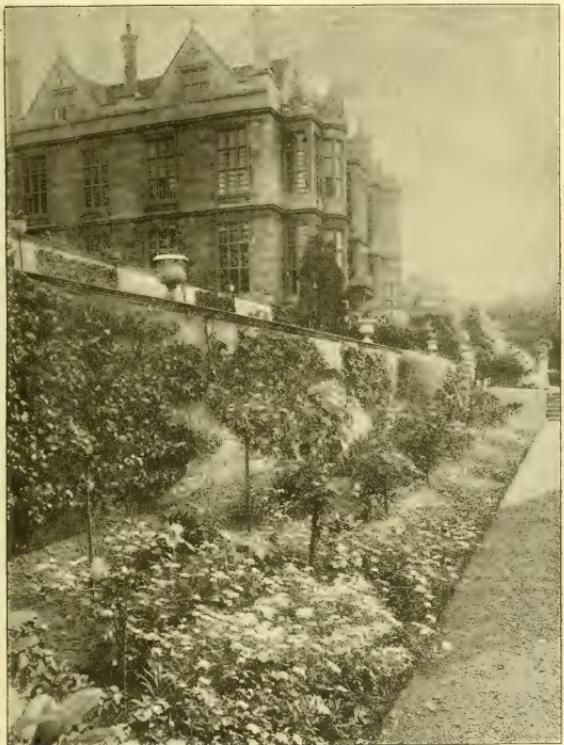
These differences in temperament, inexplicable as regards their organic mechanism, are not, however, so inconceivable as some would have us believe. That "habit is a second nature" may be said of plants as well as of human beings and of animals. So when a plant has vegetated for a long series of ages on a calcareous or mixed soil, its organs have become so well adapted to the conditions of that description of substratum, that it must necessarily undergo a great disturbance on finding itself transported to a soil composed of silicates and alkaline earths. When the transition is sudden the plant succumbs or drags out a wretched existence, being unable to sustain for long the competition of the autochthonous species. Inversely the reasoning applies to the case of siliceous species which have become so long habit, and are then transferred to calcareous soils, albeit that the conditions offered by these last-named soils are more favourable to the nutrition of plants. The disappearance—at least, temporarily—and so long as the effect of the lime remains—has been noted in the case of soils that had previously been heavily limed of siliceous species, like *Holcus mollis*, *Agrostis vulgaris*, *Anthoxanthum odoratum*, *Nardus distichlis* (*N. Lachne*), *Rumex acetosella*, *Galeopsis octandra*, *Anarrhinum bellidifolium*, *Calystegia algarvia*, *Jasione montana*, *Spergula portentosa*, *Teesdalia nudicaulis*. Another test well known to farmers consists in causing the disappearance of *Mosses*, *Rushes*, and *Carex* from fields, either with the aid of lime or by applying a mixture of phosphate of lime and sulphate of ammonia. In the latter case, in the place of the plants above-mentioned, Clover and other fodder plants which previously only existed in the field in small quantities were seen to grow.

Plants that are cosmopolitan as regards soil are, we think, species which, having existed in the first instance in those mixed soils which are found in most parts of our planet, have gradually passed to other mixed soils in which the silicious or calcic element predominated, as the case may be, and thereby attained to a suppleness of temperament which species exclusively confined for a succession of ages to crystalline sialic rocks or calcareous strata were never able to acquire. The geic indifference of these cosmopolitan plants would therefore, like the silicic, calcicule, halophile and nitrophilic idiosyncrasies of other plants, seem to be a matter of habit, or, in the language of contemporary naturalists, the effect of the adaptation of the organs to telluric conditions. But be the philosophic opinion what it may concerning the temperaments of plants—whether these are the result of adaptation, or they existed from the very beginning—their existence cannot be denied. Consider the difference between the temperament of the *Talassophytes* (living, as they do, in sea water containing 40 grammes to the litre of chloride of sodium and magnesium), and that of the majority of land plants which are killed by the continuous application to them of even very weak solutions of marine salt; whilst, on the other hand, their vitality is increased by means of equal applications of potash salts.

A BORDER AT KINGSTON HOUSE. THE great fault of Kingston House—an illustration and full description of which were given in THE GARDEN of December 22, 1894—from a gardener's point of view is that a site was selected giving little scope for landscape gardening or for the formation of a park such as the importance of the mansion demands. The lawns and gardens may be said to rise in terraces, and the great point aimed at in their formation was apparently to give as much seclusion as possible. It may perhaps appear

"The Slope garden," devoted to the cultivation of flowers and vegetables, and on the left an old-fashioned fruit garden with espalier Pear, Apple and Plum trees set in squares. These squares are edged with Box, giving a mediæval touch to the scene that one would not readily destroy. The surrounding walls are covered with choice trees, and access to the lawn is obtained through an Ivy-clad doorway. Immediately below the stone terrace—ornamented, by the way, with many vases, which when filled with plants have a really charming effect—is a flower

border, herewith illustrated, the feature of which at present is its Rose trees. To the right of the terrace is a small lawn containing in the centre a very good specimen of the Catalpa. The lawn, which is reached by the flight of steps opening on to the terrace, is fringed with a shrubbery.



A flower border at Kingston House, Bradford-on-Avon.

almost hypercritical to complain that no comprehensive view is afforded of the picturesque valley, up the sides of which climb the irregular little streets of Bradford—that valley from which Gainsborough painted some of his finest landscapes. The view from the grounds of Kingston House is nowhere remarkable, with the exception, of course, of that of the house itself, always a fascinating object. The Avon is within sound, but not sight; the gentle roar of the water as it rushes over the weirs hard by is heard, though the river itself is not in view. On the right-hand side of the house is

border, herewith illustrated, the feature of which at present is its Rose trees. To the right of the terrace is a small lawn containing in the centre a very good specimen of the Catalpa. The lawn, which is reached by the flight of steps opening on to the terrace, is fringed with a shrubbery.

Rosa Henriette de Beauveau. — Undoubtedly the best of the pure yellow Roses are to be found in what is termed the climbing section of the Teas and Noisettes. The above-named variety was sent out by M. Lacharme and

was the last Rose distributed by him. It is of a lovely clear yellow. When opening, the centre petals of the older flowers are faintly tinged with pale pink. The size of the flower is quite up to exhibition standard, and the growth quite as free as in Belle Lyonnaise. It is an excellent variety for a south wall, and also to grow as a standard; indeed, I think these climbing Teas should be grown more extensively as standards, especially if we wish to exhibit, and, provided we can winter them safely, they make grand heads, and the flowers are much finer in quality and colour.

ORCHIDS.

ORCHIDS IN VINERIES.

THE concise note by Mr. E. H. Woodall on p. 59 respecting the growth of Vandas and other Orchids in vineries should prove interesting to lovers of this family, the pretty photograph showing what may be done in this way when the culture is carefully carried out. Vineries as a rule are more spacious structures than the ordinary run of Orchid houses, and this is one point in their favour. Then the shade from the Vine foliage is much preferable to that from the ordinary roller blinds, one causing a broken light through which the rays of the sun can peep at intervals, the other too often a dense shade while down, giving place to a glaring light when they are drawn up, conditions that cannot occur when the plants are growing naturally. The newer arrangement of lath blinds obviates this to a very large extent, and this system must eventually make its way with all Orchid growers, the glint of sun that comes between the laths not remaining long enough on any one part of a plant to do mischief, yet allowing ample light. Fruiting growing under glass, too, necessitates early morning ventilation, and, in fact, careful manipulation of the ventilators all day, while with a certain class of Orchid cultivators it is too much the custom to run the blinds down and leave the ventilation to take care of itself. Possibly no Orchid in existence enjoys a free circulation of air about the foliage more than Vanda corymba, as I have pointed out more than once in these pages, and without a doubt this has a good deal to do with its being so satisfactory under the viney treatment. Of course, where a large collection of Vandas exists, it is easy enough to give them the correct treatment, but where they have to be grouped with other East India genera, such as Phalaenopsis and the warmer section of Cypripediums or Dendrobes, often in low, narrow houses hugging the glass, then it becomes difficult to do them really well. They may stand the heat for a time and apparently excel in luxuriance other plants grown under cooler conditions, but the leafy stem will be ill built up, so to speak, subject to checks from very slight causes, and not of the hard, healthy texture that is so essential to long-continued health and freedom of flowering. Anyone in these circumstances then if he has a viney at command may with confidence take Mr. Woodall's advice. He will find his plants healthier and more satisfactory in every way. The good old Dendrobium nobile is another kind that will do remarkably well under these circumstances, and where there are successional vineries the plants may in fact be started with the Vines in spring, ripened with them in autumn and rested with them in winter, a good succession of flowers being the result. Nearly the whole of the evergreen section, some of the shorter bulbous deciduous kinds, and such as *D. infundibulum* or *D. Jamesianum* of the nigro-hirsute group may also be included, but for the longer-bulbed

sorts, as *D. Devonianum* or even *D. Warui-*
anum, also *D. formosum* or *eburneum*, I should prefer the East India Orchid house proper while growing, though the viney will be a capital place for resting such as require it. Instances are on record of success in the culture of many *Cattleyas* in vineries, but, suitable though the summer temperature may be, I should hesitate to recommend anyone to keep them there during winter, provided always that the vines were considered. Nor would the Brazilian *Laelias* be happy under the circumstances, though many of the Mexican kinds would thrive in the lightest part of the house. Many other plants from the neighbourhood of South Mexico, Guatemala, and the higher regions about Costa Rica, including many of the *Odontoglossum grande* and *Inskoysi* types, or *O. citrosum*, many *Trichopilas* or *Pilumas*, and the interesting *Pterisera elata* from Panama—any or all of these if duly considered as to individual peculiarities may be included with advantage. The list, in fact, may be made a very long one, but mere repetition of names becomes tedious, and it is often best for cultivators to experiment for themselves. Find out what kinds are best suited by the treatment and grow them there. These will benefit by the change, while others left behind will have more room for their full development.

R.

Laelia elegans prasiata.—This may be regarded as one of the very finest forms of this variable kind, unfortunately rather more rare than most of the varieties. The flowers are each nearly 6 inches across, of very good form and substance and distinct in colour. The sepals are light magenta-purple, the petals deeper and yet rather brighter than the sepals. The side lobe of the lip are pure white, the blotch in front a glossy purple crimson. It usually blooms later than the pale coloured forms, making a fine show if freely bloomed and requires much the same culture as *L. purpurea*.

Cypripedium Godefroyae.—It is getting late for this pretty plant to be in flower, but the curious and interesting blossoms are at all times welcome. It grows only a few inches in height, the foliage being short, the upper surface prettily shaded with light and dark green, the under side purple. In the typical form the whole of the segments are a dull white, with spots of purple, the latter being larger and more distinct on the sepals and petals than on the lip. It likes the same treatment as *C. bellatum*, *C. concolor*, and other species in this set, and has been found by most growers to be better for a little lime-mix with the ordinary compost. Plenty of heat and moisture and a shady position are also necessary, the plant being a native of the Eastern Archipelago, in the neighbourhood of the China Sea.

Lycaste tetragona.—This peculiar plant is not much grown, but now and then it turns up, and I recently saw a plant in bloom in an ordinary stove where few other Orchids were grown. In habit it is not unlike a Stanhopea, but this identical plant was labelled as such. The flowers are produced singly on small plants, larger ones having two or three on a scape. The sepals and petals are dull white with brownish blotches and bars, and the lip is white spotted with crimson and purple. These flowers last a very long time in good condition, and are, moreover, very fragrant, but it is questionable whether it will ever become a popular plant. Equal parts of peat and Sphagnum Moss, together with a good sprinkling of rough charcoal and potsherds, will grow it well. The pots may be of medium size and well drained, being careful to have all the particles of compost rough and open. It may be best grown in an intermediate temperature, and while the growth is active can hardly be overwatered provided the plants are healthy and the compost as described.

During the resting season give just enough water to keep the bulbs in good order, and a winter minimum temperature of about 50° is ample. It is by no means a difficult plant to grow, and may be recommended to those who like quaint and out-of-the-common plants. It is a native of Brazil and was introduced in 1827.

Phalaenopsis violacea.—This is a very distinct and charming species, bearing a short scape, with several of the pretty little blossoms successively produced upon it. The sepals and petals are light yellow at the tips, deepening to a rose-pink shade at the base, the lip being bright purple with a yellow centre. The flowers last well in good condition and have the additional recommendation of being pleasantly scented. Grow in baskets of clean Sphagnum Moss and charcoal in a warm, moist house, the plants will be satisfactory if judiciously attended to, a free, yet solid, growth and a resting, but not drying, season being required. It was introduced in 1861 from the islands about the Malay Peninsula.

Cypripedium Sedieri.—This pretty hybrid is again in flower, and the progress made by the plants, as well as the number of flowers produced, is remarkable, and shows the vigour of hybrid kinds. Grown in pots of peat, loam fibre, and Sphagnum in about equal proportions with plenty of crocks and charcoal, it does well in an intermediate house. It seems never at rest, for as soon as one set of growths is complete, another begins to form, and almost every one carries a flower-spike, on which the blossoms are produced over a long season. It is, perhaps, the most popular of all hybrid Cypripediums and a variable plant as regards colour.

Lissochilus speciosus.—This is a very old Orchid and one seldom seen at the present day. The plant consists of spherical bulbs, these being underground in a state of nature and bearing large showy green leaves. The flower-spikes push up after the manner of those of a *Bletia*, and the bloom keeping over a considerable time, one flower fading and others taking its place. Each of these is about 1½ inches across, pale yellow on the sepals, the petals and lip much brighter, the latter tinged with purple. It is a true terrestrial Orchid and may be grown in loose, peaty, and a little leaf or Moss and plenty of finely broken crocks. It is a native of various parts of South Africa, and was introduced as far back as 1818.

CATTLEYA GUTTATA LEOPOLDI.

SEVERAL plants of this superb *Cattleya* are now in flower, one of the best having quite large flowers, but not so many on the spikes as usual. If there is a fault to be found with this variety, it is the fact of the flowers occurring so close together as not to show to the full extent their individual beauty. They make a fine show nevertheless, the broad, well-formed sepals and petals of good substance and a distinct shade of reddish chocolate in ground colour, with many dark red spots. The lip has a very deep purple blotch, well defined, and the blossoms are deliciously scented, far more so than those of most *Cattleyas*. It comes from Brazil, and was named in honour of the late King of the Belgians, being probably the best of this variable *Cattleya*. To do it well, it must have a full *Cattleya* house temperature, the plants being kept as quiet as possible after blooming and all through the winter. In early spring the young shoots will push strongly after the long rest, and with the increasing light and heat of summer their progress will be rapid. Care is necessary at this time with the watering, as the young shoots, though very vigorous and healthy looking, are easily damaged, especially if the water is a little colder than the temperature of the house. By midsummer the spikes will be showing in the centre of the young growth, root action meanwhile being very free, so that plenty of water will be required and continued right up to the time when the bulbs are quite finished and the blossoms open. Then, if the plants are taken to the flowering house it will steady the growth,

and no trouble should afterwards be found in keeping them dormant. If carefully treated as described above, *C. guttata Leopoldi* may be given fairly large pots and a good depth of compost, as it is a vigorous rooter and makes surprising progress in a short time. It is not unusual for small plants with bulbs of say 1 foot in height to grow to nearly double this height in one season, a feat impossible with many *Cattleyas*. If the large pots are used it is imperative that the peat and charcoal in the compost we kept rough, for if fine at first it soon gets into a close and heavy condition in which the roots cannot thrive. Large plants require considerable care in potting to bring the base of all the leads as near as possible to the surface of the compost and the centre of the pot. Should they get bare in the centre the plan of cutting half way into the rhizome is worth trying with a view to induce back-break, but if this is not successful, it is just as well to break the rhizome in two and then well-finished young plants being much more ornamental and useful than two or three badly furnished ones. Even with small plants it is wise to keep the leads back from the rims, as the bulbs grow further apart than those of many other kinds, and so many of the best roots miss the compost altogether, being then auxiliaries to those in the pot, whereas they should be the chief source of the plant's sustenance and its mechanical support as well. As noted above, a good deal of variation exists in the forms of this plant, some of them lacking the warm chocolate tint on the sepals and having a not very agreeable green suffusion. For this reason it is best in all cases where possible to purchase plants in flower, the slightly higher price saving much disappointment afterwards.

H. R.

Dendrobium Lowii.—A small plant of this rather delicate Dendrobium is in flower, and very pretty are the pale yellow, long spurred blossoms. They occur on short racemes at or near the top of the pseudo-bulbs, each being from 1½ inches to 2 inches across. This species requires careful treatment and considerable heat and moisture while growing. It may be planted in small pans or baskets or firmly wired to pieces of Tree Fern stems, but in all cases it is wise to give a thin layer of compost, otherwise it may rot easily. It will die in the winter, this weakening the plants of course. It may be grown in the East India house, and if seen to be inclined to rest in winter, may be put in the *Cattleya* house for a time, but it is not at all unusual for it to grow nearly the whole year round.

Cattleya cripsa delicatissima.—This is one of the most delicate Orchids now in bloom, the white sepals and petals and rosy markings on the lip having a very delicate and refined appearance. The flowers lack the width and substance of those of many other *Cattleyas*, but this hardly detracts from their beauty. It is rather a tall growing plant, bearing a long narrow leaf on each pseudo-bulb, and the spikes produce six or seven flowers each about 6 inches across. It does well under ordinary *Cattleya* house treatment and should be well grown during spring and summer and kept dormant during the winter months. *C. cripsa* is a very old species, and this and all the varieties are natives of Brazil.

Miltonia Phalaenopsis.—This is now in flower, the blossoms being very large in comparison with the size of the plant. The pseudo-bulbs are each about an inch high, the leaves narrow, about 8 inches in length. From two to four flowers occur on a spike, pure white in ground colour, variously streaked and spotted with crimson-purple on the large spreading lip. The plants may be grown at the warm end of the *Odontoglossum* house or with the *Cattleyas*, and the latter treatment will produce the stronger growth. If grown in much heat the foliage is apt to be badly attacked by thrips, so this pest must be looked for and kept under. A thin layer of peat and Moss over good drainage is the best compost, and the plants may with advantage be kept a little pinched for room in the younger stages.

Afterwards, as they gain strength, the pots may be larger, but it is easy to overdo them with compost. It is easily seen at potting-time whether the plants have room or not, and it is safest to err on the side of too little. Plenty of water is needed while growing freely, this often being during the winter months; no drying off must be practised, the plants being easily rested by keeping them in a rather lower temperature for a time. Light dewings over the foliage are very helpful in keeping down insects, and the growth of the plants is also benefited thereby. *M. Phalaenopsis* comes from New Grenada and was introduced in 1850.

DAFFODILS IN THE GRASS.

MANY clumps of the common double Daffodil had been growing here in the grass undisturbed, according to the testimony of "the oldest inhabitant," for certainly more than sixty years, probably fully 100. Encouraged by their success and several letters in *THE GARDEN*, I determined to try other varieties on the outskirts of my lawn and under trees. Ac-

THE GREAT FROST OF 1895.*

It is a common saying that Englishmen are never tired of talking about the weather. I must hope that the members of the Field Club are not easily tired in listening to talks about the weather, for this is the third year in which I have spoken about the weather of the preceding twelve months and its effect upon the garden. Had the weather of the twelve months beginning with December 1, 1894, and ending with November 30, 1895, been at all of an usual character, I should not have ventured to have returned to my subject of the two previous years, but there has been so much that is not usual, and the effects have been so very remarkable, that I agreed with your secretary and others, who thought that there should appear in our proceedings some record of such a season; and in a sketchy way I will now make the record. That it was a season marked by very unusual weather is well known to you all; it was a season in which the weather went into extremes, and it seemed almost to bear out the statement that was made a few years ago by a

years. There were twenty-seven days of frost, and for the most part very hard frost, the thermometer on the 8th falling to 10°, and only rising as high as 45° on the last day of the month. The wind was in the north all the month, and there was very little rain. It was a month to be remembered for its extreme severity and its consequent discomfort to man and beast and plant. March was a little better, but could not be considered a genial spring month. There were frosts on ten days of the month, but not very severe; the lowest reading was 26°, and towards the end of the month it reached as high as 60°, but only for a very short time, and the general character of the month was a low thermometer and about 2½ inches of rain (2.32). But when March was past we had seen the end of the frosts; April was a mild month throughout, with a fairly high thermometer, and over 3 inches of rain (3.12); May, too, was a beautiful month, with a high thermometer all through, reaching as high as 82° on the 30th, and with scarcely any rain (0.44); June, too, was a brilliant month, with the thermometer every day above 60°, and with less than half an inch of rain (0.44), spread over four days; July also was a bright month with a high thermometer all through, but with 4 inches of very welcome rain; August was as fine, with less rain (2.28), and September was a very warm month, with 1.46 of rain only, and reaching to great heat in the last days of the month and the first days of October, which showed remarkable heat at the beginning and unusual cold at the end, the thermometer falling to 25° and frost continuing for more than a week, commencing from the 26th of October and reaching into the first week of November. Since that we have had very little frost, except a very slight frost on November 18, but during the month of November there were nearly 6 inches of rain (5.94).

The notable points of the weather of the year then were three months cold, and for the most part very cold weather; three months drought; exceptional heat at the end of September, and exceptional length of cold in October; and it is the combination of these different points in one year rather than the particular nature of each point that is so remarkable. There have been many frosts of greater severity and length than the frosts of January, February, and March of this year; there are records of greater heat and longer drought than this year's record shows, and it is not the first time that we have had great heat at the end of autumn, and great cold at the commencement of winter; but it is the combination of all these in one year that makes the weather of the year remarkable. But it is not altogether exceptional; and by way of showing how very similar our present seasons are to those that our forefathers went through, I will give a short record of the weather of a season more than 500 years ago. In the 14th century there was a William Merle, who was Fellow of Merton, and rector of Drifby, in Lincolnshire. He was a close observer of the weather, and has left a record of every week of the weather at Oxford during the seven years between 1337 and 1344. Of course, not having our modern instruments, his observations could not be very minute, but he has done his best to mark the differences. The rain record is either *pluvia magna* and *maxima*, or *parva* and *minima*, and for the cold his distinguishing marks are *gelu*, *pruina*, and *glacies*. The record is called "Considerations Temporiei per 7 annos per Magistrum Willielmum Merle, socium Domus de Merton—1337-1344." It is preserved in the Bodleian Library, and a few years ago was published in facsimile by



Narcissus poeticus ornatus in the grass at Belmont, Co. Carlow, Ireland.
Engraved for *THE GARDEN* from a photograph sent by Mr. J. H. Thomas.

cordingly, five years ago the scattered tufts of the aforesaid double Daffodils were taken up and about 1600 replanted in one clump. They were in large clusters of from 100 to 250 bulbs in each, so crowded that there were seldom more than a dozen flowers to a tuft. I also planted several other varieties in the grass, the most beautiful of all being Horsfieldi. The soil is light, on limestone gravel, and the Daffodils were given a good start by being planted in separate holes made by a crowbar, a good handful of leaf-mould and manure placed under each bulb. All have succeeded well, except some biflorus which are under Beech trees, but I do not despair of their ultimate success. The accompanying photograph represents a clump of the early Poet's Narcissus. Most of them are the variety ornatus, with a few tufts of Burbridgei (type) and grandiflorus precox. All this clump flowers early, which is an advantage, as the grass is closely mown in summer, and therefore it is necessary to have them soon ripened off. Others in the grass here are primroses, the Pheasant's-eye, orange and yellow Phoenix. The Appenine Anemone is also growing amongst some of the Daffodils.

Belmont, Carlow.

J. THOMAS.

great meteorologist that the tendencies of our seasons for some, perhaps for many, years to come, would be that the weather would be in extremes; extreme heat and cold, and extreme drought and wet. What the actual weather was is best shown by a short account of the rainfall, the heat, and the cold, during each of the twelve months that have passed. December, 1894, was a mild month, with seven days of slight frost never lower than 28° and reaching as high as 55°, and with nearly 3½ inches of rain (3.35); but in the morning of the new year a period of severe cold set in, which lasted with slight intermissions for three months. In January there were eighteen days of frost, and on the 26th the thermometer fell to 18°. There were some bright intervals, so that on the 20th the thermometer reached 53° and there were over 3 inches of rain (3.16), but the character of the month generally was a low thermometer throughout. But in this respect it was far surpassed by February, which was not only the coldest month of the year, but the coldest February that had been recorded for many

* Read December 18, 1895, before the members of the Bath Natural History and Antiquarian Field Club by the Rev. Canon Ellacombe.

Mrs. Sowerby. Now the record for 1888-9 shows hard frosts during nearly the whole of December, January, and February, followed by a very hot June, July, and August, but with slight interruptions of rain, and very mild throughout after the cessation of the frost. So far it is curiously like our record of this year—three months frost and three months drought; but the likeness does not altogether hold further, for in 1889 the whole of October, November and December were very mild, but with much rain. I think this is a good answer to those who are fond of maintaining that the climate of England is different in this our 19th century from what it was in former centuries; it may be changed in some few parts where extensive tracts have been reclaimed from marsh and fenland or forests, but in the main it is absolutely the same; and so it always must be as long as Great Britain continues to be an island washed by the Gulf Stream, and forming part of the globe which travels round the sun in the same course that it does now.

So much for the weather of the year; I now come to the question, what has been the

EFFECT IN THE GARDEN

of the great frost, and what are its lessons? Whether the frost was exceptional or not it was very severe and very prolonged, and every gardener must have watched its results with anxiety. Certainly I did, and the thing that has struck me most forcibly is the very small injury that has resulted from it. Of course I had losses, and severe losses, and it may be well to name a few. I lost nearly all my Kniphofias and Cistus, and when I have said that I have exhausted my list of total losses. But among all plants, and especially among the shrubs, there was great disfigurement; there was a loss of many years' growth, and in many cases plants were killed to the ground. But there were some very curious exceptions. I have a fine specimen of the Californian Bay (*Umbellularia californica*); it grows in a sheltered place, near my entrance porch, but in the winter of 1888-1, after standing uninjured for many years, it was killed to the ground, and was apparently so lifeless that many advised me to grub it up; but I was patient with it, and after two years it showed signs of healthy life, and is now 10 feet or 12 feet high, and during this winter scarcely a leaf was injured. All the Bamboos not only survived without injury, but seemed even to have acquired an increase of strength and vigour. Most of the New Zealand and South American plants, which we grow as hardy plants, but which are all more or less doubtful, stood the cold well; the Palms were very little injured; and the Myrtles survived, but had a hard fight for life; but even such tender things as the Jalap, the Rhynchospermums, *Solanum jasminoides* and *Pentstemon cordifolium* were very little hurt. The curious thing is that in former bad winters, and in many winters which by comparison might be called mild winters, all these plants were very much more injured, and their escape during the last winter may be attributed to three reasons. First, during the whole time of the frost the air was very still; there was very little wind; and I have always found that wind does more mischief to plants, especially to shrubs, than hard frosts. Secondly, the frost was continuous, with very few alterations of frost and thaw. The mischief done to plants is generally after a thaw, when plants begin to put out shoots and leaves, and if the frosts come back then, the results are disastrous. This was shown very strongly in an unexpected way—I found that many plants under a south wall or in sheltered

places suffered more than the same plants in more exposed situations. I had three healthy plants of the New Zealand *Succow Greyi*, all slightly protected against wind, but two of them in very sheltered spots, the third in the open garden, and of the three the two in the sheltered spots were entirely killed, the third was uninjured; and the same thing occurred with other plants. The third reason was that the frost did not come till the plants were well at rest. I am sure that a frost coming when the plants are still green and their vessels full of sap, does far more harm than if it comes when the plants are all comfortable in their winter sleep. To me these reasons sufficiently account for so many of our plants coming unscathed through such a frost, but whether I am right or not the fact remains the same, that, though our plants had very little of Nature's own protection of snow, they showed themselves well able to take care of themselves, and did take care of themselves far better than in some other winters which were far milder and much more destructive.

LESSONS TO BE LEARNED.

The great frost has taught me some lessons. I think the chief lesson that I have learnt is that I am more ignorant about frost and its effects than I thought I was; at any rate it presented to me a lot of fresh puzzles which I cannot answer. Another thing that I have learned is that to divide plants into hardy and tender in a hasty uncertain division, because of many plants of the same species in the garden some were killed by the frost and some survived, and it would puzzle anyone to say whether for the future they should be ranked as hardy or tender. The instance I have just cited of *Senecio Greyi* is a case in point, and there were many such. In my own garden the New Zealand *Veronica Traversi* was injured, but not killed; at Kew every plant was killed, while on the high land of Caversham, not very far from Kew, I saw many large bushes with not a leaf injured. An old vigorous plant of the Indigofera is probably quite dead, though I am not sure of it, but seedlings near it an inch or two high are uninjured, and it was just the same with Euphorbia Characias, and a strong plant of Aristotelia was quite killed, while a few feet away a half-struck cutting in the open ground lived and has been a flourishing bush. Another puzzle was this: Several shrubs put out good shoots, but soon died entirely; and in that case I fancy that the shoots were living upon some reserve store of sap, but the roots were dead and the supply could not be kept up. And besides these puzzles, the frost brought with it some pleasures and some practical lessons. It is surely something to have seen the very worst winter that most of us are likely to see; something to be able to feel that whatever discomforts from the weather are in store for us, we have left the worst behind. And it was a real pleasure when the frost once completely broke up, and the flowers began to come again, to see day by day the reappearance of some favourite of whose life you felt you had good reason to despair. This reappearance of lost plants went on all through the year, even to the end of October, and I believe it is not yet at an end. I shall not be surprised to see next year many plants again in their usual places of which there have been no signs this year. Another lesson is not altogether a new one; but I have had additional proofs to my old belief that the grand thing to provide, if we want to ensure the lives of tender plants, is to do all we can in keeping warmth at the roots. I consider mine a warm soil, and to that I largely ascribe my success in growing many plants that will not grow in other

gardens. This warmth of soil has very severely tested this year. I have never taken the earth temperature of my garden at any time of the year, but very accurate records of earth temperature have been kept for many years at Regent's Park, which is a cold, clayey soil. There Mr. Sowerby has recorded that the coldest night of the year was February 7—when the thermometer stood at 7°5—but on that night at 1 foot below the ground the thermometer was 31°, and it was not till seven days after that the earth temperature was as low as 28°2, when the air temperature had been steadily rising for some days, and all through the winter the earth never froze lower than 1 foot. The experience of the gas and water companies throughout the kingdom showed that the freezing of the soil depended less on depth than on the situation and nature of the soil. It was found that pipes laid at 3 feet below the soil on an incline facing to the north would freeze sooner than pipes laid 1 foot but with a southern aspect; and pipes laid in a porous light soil were much less injured than those in a hard and heavy soil; and the pipes that were most injured were those laid under concrete. We may be quite sure that what is true of underground pipes is equally true of the roots of plants, with, however, this qualification, that the power of roots to withstand frost depends not only on their depth or the warmth of the soil, but also on the rich or poor character of the soil. It was an old observation of Humboldt's, "In general it is remarked by cultivators that the trees which grow in a fertile soil are less delicate, and consequently less affected by great changes in the temperature than those which grow in land that affords but little nutriment."—Personal Narrative, vol. i., chap. 2. This seems natural, for it is the same in all animals; a healthy, well-fed man or animal can fight against cold far better than a weakly one, and there is a strong likeness between animal life and plant life; but this year's great frost has shown me one difference. In any animal, say especially man, there is a great centre of life in the heart; if the heart is dead, the whole man is dead. But a plant seems to, be, if I may say so, all heart, or a collection of hearts. Half or more of a plant may die, but if one good branch remains we can propagate a new plant from it, or, if it is killed to the ground and nine-tenths of the roots are destroyed, the remaining tenth is sufficient to renew the plant in full health and vigour. I have been much impressed with this year. I have seen many plants coming to life again, and I know certainly that the new life has sprung from a mere thread, and the plant that comes is not a new plant, it is the old plant that has fought a brave battle against tremendous odds. These are not the only lessons that the year's frost has taught me, but I must leave the rest for I have still one or two things to note that I must not leave out. So on the subject of the lessons of the frost I will only add that I have learned more distinctly than ever that we really know nothing about the frost so far as plants are affected by it; I mean that on the initial question as to what are the chemical or structural or other constituents of a plant, which determine that it will be tender or hardy, the answer to that question seems as far off as ever.

The year was remarkable for the great abundance of flowers and fruit, but whether that was in consequence of the great frost, or in spite of it, I cannot say. There can, however, be no doubt that the long rest, followed by an absence of late frosts, was very beneficial to all plants. In my own garden I had a complete failure of all wall fruits, and I attribute this to the fact

from time to time the rest was broken from the sunshine on a south wall, when the trees were tempted to begin their growth, and then the frosts had full power over them. With me the great failure of the year was in Irises, but I am inclined to think that this failure was quite as much, if not more, due to the drought than to the frost. I cannot say much of the effect of the frost on animal life. In some severe winters I have seen numbers of birds lying dead; this year I saw none, and I cannot help thinking that in the wonderful way in which birds are able to forecast the weather far better than we can, they had notice of the coming severity, and migrated in larger numbers than usual before the frost came. I do not think the extreme cold had much effect on the slugs and snails; I do not think it ever has; their innate wickedness is a complete shield. But I think it had an effect on the insects; I have had no such plague of earwigs as I noticed last year, and butterflies were certainly much fewer than usual.

With one marked feature of the year I will conclude this long paper. We had literally no

AUTUMNAL TINTS

this year. Up to the middle of October the trees on the lawn were quite green, but the frost of the 22nd brought them all down, so that on the morning of the 23rd my lawn was thickly strewn with leaves, all green. A few retained their leaves, especially the Elms, and for two days they put on a beautiful golden appearance, but the heavy gales at the end of October stripped them all. To me this was a real loss in the beauty of the year. I think a tree or shrub, however beautiful it may be in summer foliage or flower, only half fulfills its allotted task if it fails to show the beauty of its autumnal tints. I was more especially disappointed this year, because I was hoping to watch the tints and see how far our English experience would agree with the experience of American observers. You are aware that the Americans pride themselves on the beauties of their autumnal woods, and many good observers among them have done their best to find out the causes of the tints and something of the laws which govern them. At present the conclusion seems to be that the tints are produced by the action of oxygen on the chlorophyll, acting in different ways at different times of the year, but in the autumn, when the strength of the tree is diminishing, producing a discolouration something analogous to the action on metals by oxygen. They have also observed that the tints are far finer after a wet summer than after a hot and dry summer, and the explanation is this:—

During a moist summer the cuticle of a leaf remains thin and its colours are vivid. In a dry summer this cuticle becomes thicker and harder, in order to prevent an injurious loss of water from the plant; and while bright colours may form within the leaf, they appear dull because seen through the opaque skin or epidermis.—*Garden and Forest*, October 2, 1895.

This certainly held true in my own garden, but I had several reports from other parts where the autumnal tints were reported to have been of exceptional beauty. At Dodington Park the colours were so brilliant, that I received a special invitation to go and see them, but unfortunately I was not able to go. I got the same report from the Wye Valley, but I think both these cases rather prove the American rule. My garden, and especially the trees from which I look for autumnal tints, are fully exposed to the sun, while Dodington Park and the Wye Valley are not; and so in both those cases the hot

sun of this year may not have had the same effect that it had on my garden. I cannot follow this subject further now, but I think it worth fuller consideration in future years.

I am painfully aware that my paper has reached an abnormal length, but for that you must blame the abnormal character of last winter, its length and severity. I hope better things from this winter. I am not a weather prophet; I can only hope, and give no reasons for my hope. If any member would like to prophecy a severe winter, he is at full liberty to do so; if he can give a reason for his prophecy, so much the better—or worse.

KITCHEN GARDEN.

SPRING CABBAGE.

MANY gardeners will already have made their first sowing of these, but after repeated trials I find there is nothing gained by sowing too early, particularly where the ground has been well tilled and in good heart. Select a piece of ground in the open, that the air may act on the plants from all sides, this being far preferable to sowing on a border that is sheltered by a wall. Before sowing, see that the soil is made thoroughly moist to the depth of a foot, that it may not be necessary to water so heavily afterwards. In my opinion it is far better to sow in shallow drills about 6 inches apart than broadcast, as by so doing the seed is not only more evenly covered, but the plants are more easily kept clean. If the first lot of seed be put in at any time during the second or third week in August, the plants will be large enough for transplanting to their permanent quarters by the end of September, in which the majority of cases will be quite soon enough. When the seed is sown, if the weather is hot and dry, give the ground a watering, then cover with a mat, as this will prevent evaporation and so keep the soil in an even state of moisture. After four days the mat ought to be removed, for at this time of the year germination takes place quickly, and if covered when the young plants appear through the soil, they soon become drawn and are spoiled. When the first seed-leaf makes its appearance and if the weather continue dry, add a little guano to the water each time watering takes place. The plants will then soon be large enough for prickling out, which ought not to be delayed one day longer than is absolutely necessary, as they soon get spoiled. Each one should be carefully drawn after giving the bed a thorough soaking, that they may leave the ground readily. They should then be pricked out about 4 inches apart each way, that a sturdy growth may be made. The ground on which it is intended to grow Cabbage cannot well be too rich. With many it is the practice to plant on ground from which the crop of Onions has been taken, and this no doubt is a good place provided the soil is in good heart. I have known gardeners simply clear off the Onions and hoe the ground where the soil is light, but I do not consider this good practice for various reasons. In the first place, the Cabbage crop usually remains on the ground for a considerable time; therefore if fine hearts are to be had, and these followed by a crop of tender sprouts, it is evident, unless the soil be of extra quality, this cannot be done. Where the Cabbages are cleared off as soon as they are cut it may not be necessary to go to the trouble of digging light land. Here, however, there would be some difficulty in getting a dibber into the ground unless it were dug. It is, therefore, my practice to give the plot on

which these are grown a liberal dressing of manure, then to dig it two spits deep, taking care in so doing to break it up as fine as possible. The distance allowed between the rows of early Cabbage must greatly depend on the quality of the ground and variety grown, or whether it is intended to grow any other crop between them. Some prefer planting every alternate row with Coleworts, in which case it will be necessary to allow a greater space between the row; but where ground is fairly plentiful it is as well to plant the early Cabbage by themselves, and if late kinds are grown putting the Colewort between these. The space allowed here is 18 inches between the rows and about a foot from plant to plant, and I find they have ample room to grow, as most of the early varieties make but few leaves. Before planting, a shallow drill is drawn, and if the ground is at all dry, water is run down this till the soil has become thoroughly soaked; the plants are then carefully lifted with a fork, so as not to destroy more roots than can be avoided and planted up to the first leaf. If the weather is very bright, a small pot is turned over each in the daytime, but removed in the evening before the sun goes down. In this way they soon take hold of the earth and grow away rapidly. When they are sufficiently established to do without watering, the soil between the rows is made level, which keeps them in position, so that none of the stems is exposed to the frost during winter. Early in March the ground between the rows receives a dressing of nitrate of soda, which after the first shower or two soon makes itself seen by the rapid progress made by the plants. The most suitable varieties for autumn sowing are Ellam's Early, Sutton's Flower of Spring, and Little Gem. It is often difficult to get good Cabbage seed. Unless special care is taken to keep the different varieties far enough apart they are sure to become crossed.

H. C. PRINSEY.

WINTER SPINACH.

LAST autumn the germination and growth of winter Spinach were probably the worst on record; indeed, amongst the many notes which appeared in THE GARDEN from different parts of the country relative to this crop only one, so far as my memory serves me, intimated that the winter's crop of this vegetable was doing satisfactorily. It mattered not whether the soil was light, medium, or strong, the young plants turned yellow when two pairs of leaves had been made, and all efforts to restore them proved useless. I sowed two beds at different dates and in different positions, which I always do, as if one fails, the other sometimes does well, but both beds collapsed, although one was in a comparatively shady place and was watered almost daily. I have before referred to the fact that round or summer Spinach does equally well as the prickly or so-called winter variety. I was assured of this by a gardening friend in 1893 who happened to call just when I was sowing for my winter crop, and, acting on his advice, I sowed an equal breadth of each, and in spite of the severe winter which followed, the summer variety did quite as well, if not better, than the winter, and did not run to seed so soon in the spring. I think that the seed is often sown in too shallow drills at this time of year, and as many gardeners, though erroneously, I believe, take care to select a sheltered, warm border, in order, as they think, to give the crop the best chance of standing the winter, a dry, parching, and perhaps a rainless September and October often play mischievous with the seedlings, so affecting the delicate young roots, that partial or complete collapse ensues as soon as frost appears.

Although, owing to the liability to attacks from wireworm, I usually thin my beds with caution, I strongly advise both early and liberal thinning, and that for two reasons: first, it is a preventive against a weak growth in its early stages, which is very important; and secondly, Spinach so thinned does not get blown about by high winds—a fertile source of injury—as when thinning is neglected. As soon as my beds seem well established than a second time, in moist weather if possible, afterwards gently pressing the plants which remain into the soil with finger and thumb to steady them. It is this loosening by wind that plays the mischief with autumn-sown Onions. My experience is that winter Spinach, as a rule, does best on a somewhat exposed quarter of the garden where it is not subjected to as many, or as great fluctuations of temperature as that growing on, say, a warm Peach or Apricot border. It is useless trying to grow Spinach on plots infested with wireworm unless remedial measures are taken in good time. This consists in incorporating a liberal quantity of gasline two or three months previous to sowing. Old seed should never be sown. J. CRAWFORD.

STOVE AND GREENHOUSE.

GLOXINIAS AT READING.

In the extensive ranges of glass at the seed and trial grounds of Messrs. Sutton and Sons there is now to be seen a most imposing display of those useful and beautiful plants. The results now achieved are the outcome of years of patient and persistent selections and of hybridisation. Not only has increased vigour been imparted into the leaf growth, but the same results have been achieved in the flowers also. The former of these attainments it should be noted, is often gained in a measure at the expense of the flowers themselves. In speaking of vigour of constitution it must not be inferred that it is at all excessive or out of proportion. The new leaves are broad by proportion to their length, whilst the leaf-stalks are short; the pots are thus easily covered by the first four leaves that are made after the seedling stage, these leaves not extending beyond the pots to any great degree, but drooping down and thus partially covering them. The leaves are ideal types of what such growth should be in the Gloxinia, being thick and fleshy and of a dark green shade. It should be noted here that many growers of the Gloxinia spoil their plants in the initial stage either by overcrowding in the seed pan or by excessive moisture. In the former instance the dwarf, close growth so useful is sacrificed, whilst the foliage, if large even, has not that consistency which is so desirable to produce fine flowers, and the attacks of thrips are as a natural sequence more readily encouraged. The Messrs. Sutton, in securing the habit of growth as noted, have also gained another most important point, viz., a short flower-stem, by which means the flowers are entirely self-supporting—so much so, in fact, as to obviate any need of sticks to secure the flowers when the plants are taken to an exhibition. The substance of the individual flowers also is most remarkable; they are of leathery texture, and when handled quite firm also. The length of petiole is also increased, whilst the width is in proportion to the leaf, also of great width and overlapping each other.

The plants from which these notes were taken have all been raised from seed this season, having already been in flower some weeks. If such results can be had in such a short time, each plant bearing numbers of blossoms, the second season bids fair to be of still greater promise. Examples of these older plants were to be seen at the Temple show. The pots used are not at all excessive in size; that which finds most favour is

somewhat intermediate between those known as 48's and 32's. The soil itself is of the usual description, but firm potting evidently finds favour, whilst a good amount of light is aimed at in every one of the many houses now filled with plants fast approaching their fullest beauty.

The varieties are not in any sense extensive, but the colours are clear and decided. This latter point has evidently been kept well to the front in past years.

Of whites, Her Majesty is our excellence the model of what a Gloxinia should be. The purity of the flowers is most noteworthy, being absolutely white throughout, and the substance, with all other good points, as noted previously, standing out in a remarkable degree, especially the singularly short flower-stalks. It is a wonder that such a flower as this Gloxinia possesses is not more sought after by the decorative florists. Another white variety was noted, which has a decidedly lemon-yellow throat, with in other respects equally fine flowers. From the foregoing has been raised quite a distinct variety called Princess May, which has pure white lobes, margined with rosy pink in two shades, the flowers of full size and the growth sturdy. The finest of purples, a rich deep Tyrian purple, is to be seen in Empress of India, in other respects a counterpart of Her Majesty. One named the Duke of York belongs to what is a very popular type of Gloxinia with many growers as regards colour, viz., a dark velvety crimson, with the lobes broadly margined with the purest white. That named the Duchess of York is an excellent companion to the foregoing, a deep velvety purple, with the same distinctive white margin in contrast thereto. Another variety named Azura Blue has flowers with the throat of great width, its name being taken from the colour of the lobes against a pure white ground colour; this is a singularly distinct form. In scarlets the best possible choice is that named Reading Scarlet, in which the same excellent habit is maintained, the foliage in this instance being slightly undulated and somewhat darker in colour than the colour of a rich glowing shade. Very similar in habit is a selected crimson variety, quite distinct in every other way. The spotted varieties are also in strong force, the vigour of growth showing a very marked improvement. One of these was noted with very large flowers, the lobes being of a pure white ground colour, with a rosy pink venation. Other forms were also very distinct. In one group was to be seen a great variety of colours, as represented by the produce of mixed packets of seed.

Just at this season it is worthy of note that by sowing seed without delay, good results may be had during the ensuing winter months for the decoration of the stove.

VISITOR.

Amaryllises.—For many years Amaryllises seemed to go out of fashion, but the recent introduction of so many fine varieties has again awakened enthusiasm for their culture, and it cannot be denied that their general usefulness amply repays any amount of pains which may be bestowed upon them. Their culture is tolerably easy, but why some fail to do them well is because they give them too little heat when making their growth. Others store them away before the bulbs are well matured and in too warm a place consequently when started the forcing season they fail to flower, or do so irregularly. Potting should be performed as soon as the plants go out of bloom, using pots in strict accordance with the size of the bulbs, as overpotting they strongly resent. The compost which suits them best is good fibrous loam three parts and one part leaf-mould and well decomposed cow manure, with some coarse sand added. After potting, an intermediate house is the best place for them, this encouraging an early and free growth and a consequent early ripening of the bulbs. As soon as it can be perceived that growth has ceased, removal to a cooler and more airy structure for a few weeks is necessary, gradually lessening the supply

of root moisture and finally withholding altogether when the plants are stored away in a dry, cool place just free from frost, being again introduced into a gentle warmth in spring according to the time they are wanted to flower. If a part of the batch is kept back for later blooming, a little water should be given occasionally, as a too prolonged state of root dryness will cause the bulbs to shrivel and render blooming uncertain.—J. C.

GARDEN FLORA.

PLATE 1078.

THE PERIWINKLES.

(WITH A COLOURED PLATE OF VINCA MINOR
FL.—PL. *)

THE two best known of all the hardy Vincas are *V. major* and *V. minor*, which together with their single and double and variegated-leaved forms are often met with clothing banks and walls, margins, rocks, and tree stumps in pleasure grounds, woodland walks, and in plantations everywhere. All the kinds seem most luxuriant in moist places and in half shade, but will grow anywhere in even poor soils, especially if it be stony, or under the



The common Periwinkle (*Vinca major*).

shade of deciduous trees. *V. major* is the largest and strongest growing kind, its long roots rooting at the tips only, and in this way it extends widely and soon covers a large area. The large purple-blue flowers are produced in February or March, and as seen at its best it is a very handsome trailing shrub.

V. minor is much smaller in leafage and in flower, and also more variable, there being two or three variegated forms and also varieties having white, purple, and blue flowers, and of all these there are double-flowered forms. One of the best and most graceful of these is shown in the plate, a double form of *V. minor* purpurea. Apart from its smaller size, *V. minor* differs from *V. major* in rooting at almost every joint, and its growth is more prostrate, forming a dense carpet of stems and leaves. *V. minor* is most useful for covering banks and bare ground under trees, as its rooted shoots may be dibbled in or planted at any time of the

* DRAWN FOR THE GARDEN by H. G. Moon from flowers sent by Mr. P. Davidson, Iwerne Minster, Blandford, Dorset. Lithographed and printed by J. L. Goffart, successor to Guillaume Severeys.



THE

year during mild and rainy weather with success. A kind more rarely seen is *V. media*, or *V. acutiflora*, as it is often called in gardens. Of this there are both blue and milk-white forms, but it is more delicate than the others named, and does not make such a good carpeting plant.

The hardy European Vincas are really allied to the tropical Allamandas, being apocynaceous, and Vinca roses and its white-flowered form are well-known hot-house shrubs from Madagascar.

F. W. B.

THE WEEK'S WORK.

FRUIT HOUSES.

EARLY PEACH HOUSE.—The wood on trees that were forced very early will now have become firm, but in order that the foliage may be maintained fresh as long as possible, plenty of air should be afforded both day and night. With bright sun-shine the borders are apt to get dry and the foliage infested with red spider. To prevent this trouble some pest from doing much mischief, set that the trees are washed occasionally and that the border is kept moist. Many of the evils attending early-forced trees may be traced to neglect after the fruit is gathered. All gardeners know that both the Peach and Nectarine are very late naturally in shedding their leaves; therefore, in the case of trees that have been forced severely the foliage should by no means be hurried off, as there will be ample time for the trees to rest during October. When the borders are allowed to become too dry the leaves fall prematurely, which is often the cause of the buds dropping when forcing commences. With later houses from which the fruit has been gathered every precaution should be taken to keep the foliage healthy, as it is only by so doing that the buds can be properly developed.

VINEHEDGES.—Where early forcing is carried on to a considerable extent, the more forward Vines from which the fruit has been cut will now be ripening their foliage. All the air possible should be admitted that the buds may remain dormant, and if for extra excitement of the sap were to take place the top buds would push, causing a lateral growth. If this happens to any considerable extent the Vines will still go on growing till they are checked by cold weather in the autumn. Where the rights can be removed this should be done, but houses having only lifting ventilators and front lights should be left open as wide as possible both day and night. In many old places Vine borders are outside, and where such is the case early forcing has to be done under adverse circumstances, as there is much difficulty in raising the soil to the necessary warmth to promote a healthy growth, and often during the autumn they become so saturated by the heavy rains, unless protected, as to render them very cold. Where it is necessary to have Grapes ripe very early, recourse should be had either to pot Vines or to small houses with inside borders suitable for that purpose. In such, good crops may be had for two or three years in succession with far less trouble than in Vines in pots. Those who contemplate erecting houses of this description would do well to set about the work at once before bad weather comes on, as they would then be ready for planting next spring. The size of such houses must depend on the needs of the establishment. It would, however, be far better to have two 20 feet each in length than one 40 feet; they could then be replanted without any apparent loss.

LATE VINERIES.—Pay particular attention to the watering and ventilation of these, that satisfactory progress may be made while the days are still long and the sun has sufficient power to keep up the requisite temperature without the aid of much fire-heat. It is well, however, to have a slight warmth in the pipes at night, as this will

assist in promoting a healthy growth. Some varieties of Grapes require more heat than others to finish them well and take a much longer period to ripen; therefore, unless these are brought forward while there is good sunlight it cannot be hoped that they will ripen satisfactorily. Gross Colman, Barbarossa and others of that class are inferior at the best, and unless these are thoroughly ripened they are quite worthless. Young Vines that were planted late in the season ought now to be making satisfactory progress. A moist, warm atmosphere should still be maintained and encouraged as much as possible. All lateral must be kept pinched back that there may be more room for the leaves on the main rod to develop, as these are those required to furnish the sap for developing the buds at their base. The syringing should be freely used at closing time, shutting up that the temperature may run up to 85°, or even higher, on bright days. When the canes have reached the top of the trellis, they should be stopped. The border must be kept in a proper condition as regards moisture. Surface dribblings do more harm than good, for if root-action is to be encouraged the whole border must receive attention. Pot Vines that are intended for early forcing should be exposed to the open air as much as possible, and where the lights cannot be removed the Vines should be carried out and stood in a sunny position, taking care in doing so not to injure them in any way, as the least twist would cause serious damage. The canes should be made secure, that they may not be rocked to and fro by the wind. Vines rooted from eyes in the early part of the season will by this have nearly finished their growth. Where this has still to be completed set out they do not suffer from want of moisture at the roots. The syringing should also be freely used to keep the foliage clean and thereby promote a healthy appearance.

ORCHARD HOUSE.—Much of the early fruit in these structures will have been gathered. There will, however, in the main crop to still receive attention, such, for example, as late Peaches, Pears, and the like. Choice small-growing specimens are always deserving of special attention, and in the case of both these fruits sets should be afforded to prevent them from falling to the ground. It often happens that insects of various kinds are more troublesome to the finest samples than any others; therefore extra precautions should be taken to guard against their attacks. I have never known birds so troublesome as they are this year; they are attacking the Apples wholesale while still hard. Wasps are very numerous, and unless these are at once destroyed they will make sad havoc with the fruit. There ought not to be any difficulty in keeping them out of houses provided the ventilators are covered with gauze of some kind. The best plan, however, is to seek out their nests and destroy them.

SOILS.—There are but few places in the kingdom where an adequate amount of good material can be procured for potting. It often happens on large estates where old pastures are plentiful that the gardener is unable to procure a load of turf without some unpleasantness, and even when he has got what he requires, it is of such poor quality that nothing will grow in it satisfactorily, the land having received such scant attention. Where such difficulties exist, and they are by no means uncommon, the present is a good time to procure the necessary supply. This should be stacked in a heap, cutting off the layer of the thin outer layer of fresh stable manure. If this be done while the turf is still dry, the ammonia in the manure will be more readily absorbed by the soil. We read a great deal about good turfy loam, but this is an article seldom seen in some gardens; still good crops of fruit are procured. Where the soil is naturally heavy, it takes a considerable time to get maiden loam from such pastures in a workable condition, and where this is used for Vine borders without previously being specially prepared, the roots do not so readily take hold of it, for when the fibrous portions are gone the remainder settles down into a hard mass, and as it is impossible to loosen such owing to the roots

very little progress is made, and in the course of time the Vines perish. If soils are properly prepared there would be but little danger of such taking place, and in my opinion no better time could be found for getting the materials together than the present.

H. C. PRINSE.

KITCHEN GARDEN.

LETTUCES.—The production of good Lettuces throughout the winter frequently taxes the ingenuity of those in charge, and where they must had it is important to raise now a large bed of seedlings of those varieties which have hitherto been found most suitable for the work. A large supply of plants is required to form large patches and often made of those stored thickly under frames or cold houses by drip, which it may be impossible to prevent, and which causes much damage before it is observed, especially to those plants the lifting and replanting of which under such shelter have been deferred until the nights have become too cold to allow of fresh root action taking place. Mildew also occasionally attacks such plants, so that it is necessary to provide sufficient to cover losses of this kind, which may be reasonably expected throughout a long and trying portion of the year. Free and robust growth must be encouraged, and to obtain this the seed should be sown thinly on a well-manured and sunny border quite away from the influence of shade at any portion of the day. I prefer sowing broadcast at this time of the year; the forwardest seedlings can then be removed early and transplanted without disturbing those that are left, and will then come in for lifting and replanting under glass; the second sown will do for planting close under south walls, where they will if they escape the winter turn in early in spring; the remainder will probably winter where sown, and I find these more sure to live through safely than are those planted under walls, the latter being frequently killed by frost and thaw, while those further removed from the walls are often buried in a deep canopy of snow. The Bath Brown Cos is generally used for this sowing and cannot be beaten for general use. Other Cos varieties which I can recommend are Hick's Hardy and Wordsley Gem, the latter being a most useful variety not nearly so popular as its merits warrant.

It comes into use earlier than any other Cos variety; indeed it grows so close and upright from the first, that it always appears to contain a well-blanchéd, crisp, and tender heart. Of Cabbage varieties, Paris Market, All the Year Round, and Perfect Gem will be found useful, but I place most confidence in the Cos varieties for this sowing, and defer making a large sowing of Cabbage Lettuce to stand the winter for another three weeks or so. In planting out Lettuces from earlier seed beds, it is well not to despise the smallest plants, as any of these which are large enough for planting out at any time during this month will be sure to come in most useful. Plenty of ground will now be available, and they will follow almost any crop with but little preparation of the soil.

TOBACCO.—Presuming that outdoor plants have been kept fastened to the wall and that all lateral growth has been systematically pinched out as fast as it formed, I have advised in earlier notes that they will be carrying sufficient numbers of fruit or flowers to form a full crop, and it only remains now to pinch out the tops of the plants and to feed the plants well by giving occasional waterings with liquid manure, or, as an alternative in case of excessive rainfall, by using slight surface dressings of suitable concentrated manure. It will be useless to expect that any bunches of flowers formed after this date will bear fruit forward enough to ripen under glass after they have been cut and housed, so it is wiser to concentrate the whole force of the plants on perfecting that which has already formed. I never advise the entire removal of any leaves, and only allow a slight reduction of the tips in case they overlap any fruit which may soon be wanted or which has an undue proportion of shade, as I am

convinced that defoliation is a frequent source of bad flavour and want of substance in the fruits, and I think it far better to wait a few days for a perfect fruit than to hurry it at the expense of quality. Plants under glass should be watched for white fly, which appears to be plentiful this year, and which does the plants much harm and fouls the fruit as well. The best remedy I have found for this is spraying with Killington, but one operation is insufficient, and it should be repeated three times at least with weekly intervals. See that the seedlings sown as recommended for winter fruiting a few weeks back are not allowed to get drawn or stunted, as a free and sturdy growth is imperative.

SPINACH.—I advise that the main crop of winter Spinach be sown now in those districts which lie north of London, and especially on cold soils, though in those of a warmer nature it may be as well to wait for another week. With the preparation of the soil for sowing I dealt in earlier notes. Winter Spinach must be grown in well-drained soil, and I find that it does best with me on a plot sloping sharply to the north. A dead level is not good for the crop where fogs are prevalent, for, though no cold appears to prevent Spinach, continuous wet bringing about the leaves causes them to rot, and the plants eventually to die out. To obviate this where these conditions prevail I advise that soil be thrown up in bed form, with alleys 1 foot wide between the beds, to be wide enough to contain two or at most three rows of Spinach. I prefer beds 3 feet wide, each to grow two rows, for economy of labour, as the alleys thrown out then come in with a little deepening as trenches for early Celery. Tread the soil if at all light and water the drills before sowing.

PARSLEY.—It should be the practice in every garden to provide a bed of Parsley under cover for winter picking when the crop outdoors is frost or snow-bound, as digging for and picking the latter under these conditions are both uncomfortable and wasteful. Quite a small frame will, if planted now with suitable plants, provide a nice lot of fresh green leaves at a time when most in request. My practice is to fill such a frame with good rich soil to within 1 foot of the glass, and to plant thickly in this lifted roots from the earliest sowing, or if these are judged too big, some from the second sowing are utilised. It is well to know, however, that quite big plants lose most of the leaves they are now carrying, this will make no material difference to their welfare, and the winter growth throws up by big plants is more plentiful and more dense than that produced by younger plants, so that the balance is in favour of planting a frame full of big plants. Water in thoroughly, shade the frame until growth has recommenced, then give the plants a good sprinkling of soot to improve the colour, a id expose them to all weathers until winter sets in.

GENERAL WORK.—Since my last notes were written some rain—over half an inch—has fallen, but it came in such a torrent that most of it ran away down the drains. Such fitful storms are not to be depended on to supply deep-rooted things with water, and Peas, Scarlet Runners, &c., would be neglected if they were not given a full and lasting crop. Weeds have grown in spite of the drought, which only appears in their case to have tended to early seeding, and in the case of Carrot, Parsnip, Beet, and Onion plots, through which the hoe has not lately been piled, big weeds will have appeared, and these should be pulled before they cast their seeds. Here Solanum nigrum is most persistent, and will, if not sought for, perfect huge crops of seed among things that might naturally be thought dense enough to choke out any weeds. Early Leeks will now be quite forward enough for earthing up, but the trenches should not be filled in until they have been well drenched. It is not yet too late for planting any small Leeks which may remain on the seed beds, and these may come in very useful in late spring when room can be found to plant them now. Caterpillars are troublesome on Cabbages and other green stuffs, and may be destroyed

by light sprinklings of powdered salt given in the mornings when the plants are wet with dew. Slugs should be trapped by putting down heaps of bran among crops that are attacked and examining these at night, especially after a shower. They have not been much in evidence with us this year, and slight dustings of lime have been sufficient protection for most things, but a dripping time if we should get it will bring them out hungry and voracious.

J. C. TALLACK.

FRUIT AND VEGETABLE CROPS.

THE FRUIT CROP.

THE fruit season of 1896 will be a memorable one for many reasons, chief of which is the almost total failure in many places; and the old adage as to there being many a slip “twixt cup and lip” has received ample verification, for who could have wished for brighter prospects and promises of heavy crops of fruit than were held out by the appearance of the plentifully-budded trees early in the spring? The trees when they came into bloom made a magnificent show, converting the whole countryside for the time being into a vast flower garden, and owners of fruit trees conjured up visions of heavy crops of fruit in their own minds, and predicted that the crop would be equal to that of last year. But their hopes were not to be realised, for innumerable quantities of caterpillars and weevils put in an appearance and devoured both foliage and embryo fruits in a wholesale fashion, and, to make matters worse, great numbers of the blossoms failed to set owing to the unusually dry state of the soil. The rainfall in this locality has been unusually deficient for a very long time past; in fact, at no time during last autumn and winter did sufficient rain fall to properly moisten the subsoil; consequently much time and labour have had to be expended in the watering of all kinds of fruit trees.

To return to the subject of insect attacks. Those growers who grappled with the enemy at the outset had the satisfaction of saving their crops, while those who have let matters slide have to deplore the loss of nearly the whole of the crop in some instances, and in others they have but half a one at the most. In cottage gardens and orchards belonging thereto I have met with isolated cases of full crops of Apples, and the owners will find these very remunerative later on. Another thing I have observed both in this and previous seasons, and that is that where poultry are allowed the full run of orchards the caterpillar attack has been very much less severe, and cottagers and farmers would do well to profit by this most useful object lesson.

I am sorry to have to report a short yield of vintage Apples and Pears, the trees in the majority being less heavily cropped than the table varieties. This fact is to be greatly deplored now that the cider and perry-making industry is showing unmistakable signs of a healthy revival. The foregoing remarks apply more particularly to the Apple and Pear crops. Plums and Damsons will not be heavy as last year, but sweet Cherries have been above the average and of good quality, while bush fruits have been fairly abundant. Strawberries promised an unusually heavy yield, but this was secured only where artificial watering was resorted to. Nuts of all kinds are very abundant, although the trees were hard hit; the foliage on the majority has the appearance of having been riddled by small shot.

In these gardens washing and watering have been largely resorted to, and the results achieved are in every way satisfactory. Apricots,

Peaches, Nectarines and Cherries are one and all carrying heavy crops. Plums and Damsons are very good. Bush fruits are abundant, and Strawberries have yielded very heavy crops of fine fruit. Watering in the latter case was done at three different periods—just before the plants bloomed, when setting, and again a fortnight afterwards. The soil was thoroughly soaked each time, and it proved sufficient to sustain the plants right through the bearing period.

Among Apples and Pears the following are a few that are bearing well, viz., Cox's Orange, Fearn's, Ribston, King, Franklin's, London and Cellini Pippins, Stirling Castle, Tower of Glamis, Pott's Seedling, Lady Henniker, and New Northern Greenings, Duchess of Oldenburg, Malteser, Ecklinville, Warner's King, Lord Clyde, Lord Suffield, Manks Codlin, Cox's Pomona, Small's Admirable, Mère de Ménage, Lewis's Incomparable and Red Ingester. Of Pears, Williams, Souvenir du Congrès, Beurré Hardy, Althorpe Crassane, Marie Louise, Marie Louise d'Uccle, Louise Bonne, Beurré d'Amanlis, Doyenne du Comice, Thompson's, Maréchal de la Cour, Beurré Superfin, Knight's Monarch, Duchesse d'Angoulême, Seckle, Bergmeister d'Esperen, Glou Morceau, Flemish Beauty and Catillac are bearing good crops.

With regard to the vegetable crops, I never remember a worse season than the present one. Taking Potatoes first, the early crops are turning out fairly well as far as crop is concerned; tubers are small, but to make amends for these drawbacks the flavour is all that one can desire. Second early varieties are larger and the crop is fairly good, but with regard to the main-crop and late varieties the yield will be almost nil, unless rain falls in sufficient quantity to thoroughly moisten the ground again. Parsnips, Carrots, Beet, and Onions are looking well with me. Fortunately, these were all on sound ground that had been deeply worked, otherwise I am afraid they would not have been very good. In the neighbourhood the root crops mentioned look parched up and need rain sadly. For Cabbages and Cauliflowers the weather has been the worst possible, and in spite of watering they are anything but satisfactory. Winter greens, Brussels Sprouts, and Broccoli in variety present a woebegone appearance and make but little headway. A thorough soaking rain is needed to give them a good start. Spinach, Turnips, and salads have required constant attention to be able to have them in fit condition for table. French Beans are only kept going by the free use of the water-pot, and Scarlet Runners the same. Early Celery has made a good start, and this and later lots have been well mulched to save labour in watering. Early Peas cropped well, and second early kinds the same, while the main-crop and later varieties have only been kept going by dint of frequent waterings. The best early Pea to suit my purpose here is Veitch's Selected Early, First and Best, following close in succession, there being but a difference of a few days. After these, and then Dr. McLean, an old, but firmly established favourite Pea here, and which is grown in large quantities, succeeds them. Autocrat gives the main-crop supply, and Sturdy is grown exclusively for late work. The varieties enumerated are those which find great favour here, and the more recently introduced kinds have not yet been tried, simply for the reason that the above are considered to be first-class in every respect and suited to our special requirements.

A. WARD

Stoke Edith Gardens, Hereford.

SOUTHERN.

Clemont, Essex.—Apples are, unfortunately, a thin crop, not so much that many trees are a total failure, but that nearly all trees are scantly represented. I fancy this is not altogether the result of atmospheric influences, but rather a preponderance of imperfect flowers. Early sorts, both dessert and cooking, are decidedly the best. Apricots are very good, the crop heavy, and the fruit for the season of fair average size. The first fruit from an early variety was gathered on July 4. Cherries, both dessert and Morello, were and are an average crop; some varieties of the former were thin, others very good; Bigarreau Napoleon is still hanging. Pears thickly, but a large proportion of the fruit dropped prematurely, and the crop, as a whole, will be under average. Plums on walls are again very good, and as all varieties in succession are plentiful, it will be a lengthy season. Early Favourite and Early Prolific were gathered respectively for dessert and culinary purposes the first week in July. Peaches and Nectarines are a very heavy crop, and together with Plums and Apricots have required a lot of thinning. The acquisition of such early sorts as Amsden June, Alexander, and Waterloo is a wonderful boon where there is no forcing, and with simply out-door culture. Peaches is available for three months. Hale's Early, Gross Mignone, and Early Alfred follow them now, and before the mid-season fruit comes in. Strawberry is fairly good, below the average, however, in size and very quickly over. Very little growth has been made; indeed, on all other than one-year-old plants a quarter might be searched without finding hardly a single runner. Of other small fruits Gooseberries and Raspberries are plentiful, but Currants not so good as usual. A considerable proportion of the fruit has been preserved up to the present standard by the aid of heavy mulching, and in all practicable cases by a thorough soaking of water. This applies particularly to trees bearing heavy crops either in very exposed positions or that are naturally shallow rooting, and necessarily are the first affected by a prolonged drought. As may be expected in a season like the present, insect pests have been very troublesome, and only by constant attention has healthy foliage been preserved. The black fly especially has returned to the attack in a most determined manner. Now that the smaller insects are done with the battle with the earwigs will begin. The Bean traps are in position, and we shall inspect them every morning with the view to lessen the numbers of the enemy before the majority of the fruit approaches the ripening stage.

The Potato crop, may add, promises to be exceptionally good; tubers are of fine size and excellent quality, and no sign of disease has as yet appeared.—E. BURRELL, *Clemont*.

Surrey, Kingston-on-Thames.—Frequent visits to various parts of this county have enabled me to ascertain that the present season will prove a most successful one for tree fruits, whilst bush fruits have been fairly good. Apples are very thin. Here and there the commoner fair crops may be seen, but relatively they are few.

The fruits, too, are smaller than usual for the time of year, owing doubtless to the drought and abundance of insect pests; still, some good rains may do much yet to improve the sample. Pears, though thin also, show better samples, the foliage of the trees having suffered less from insects. So far the fruits seem to be very good, though moderate crops are limited to common varieties. Plums here and there are abundant, but generally the crop is light. The trees also are much blighted; for that reason it is well they be not heavily laden with fruit. On some walls crops are very good, but these are exceptions. The Cherry crop has been a very fair one, and though the samples were, owing to the drought, not large, they were very sound. Peaches and Nectarines on walls have good crops, but have needed very considerable attention in watering to keep the fruits on the trees and swelling. The trees, too, have needed ample washing.

Apricots have been a moderate crop. Gooseberries have been abundant and a good sample where the caterpillar was not prevalent, and that was not frequent. Red, White, and Black Currants, too, have been very good, though the latter suffered somewhat in places from aphis and drought. Raspberries have done very well bearing dryness in shallow soils. Strawberries have been better than was generally anticipated, the crop having been a very good one on retentive soil. On shallow soils where water could not be liberally furnished the crop was a short one. That capital late variety, Latest of All, was fruiting finely at Clarendon Park on July 15, where also the La Versaillaise Red Currant on dwarf compact bushes fruits superbly, and yet close by Raspberry canes, so strong the first season, die wholesale the second. Small Nuts seem to be very scarce, but Walnuts show in many places heavy crops.

In spite of the long drought vegetables have been plentiful and fairly good. This is largely the result of deeper cultivation of the soil than was formerly given, thus enabling the roots to find more food and moisture. Early Potatoes are both in the small and relative, but their cheapness tells of their abundance. On dry soils the earliest are all practically ripe, the tops dying off a rare yellow hue. Late Potatoes have been materially checked, but the general range of cooler temperature will give them a fresh start; hence there is later every prospect of good crops. Peas, regarded from the purely productive aspect, have been good with all earlier sowings, but comparative failures with many later ones, a liberal supply of water having failed to outweigh the effects of excessive heat and a dry atmosphere in destroying fertility and promoting the development of maggot. Late sowings that have not shown bloom may now break fresh growth and give good results. Runner Beans have made good growth and promise well. Dwarf French Beans have suffered a good deal from thrips, but chiefly on shallow soils. Asparagus has been plentiful and good. Cabbages are not so good as usual, the midseason plants being much riddled by caterpillars. Early heads were good, and later ones no doubt will also bear. Too many of the large loose-leaved varieties are still grown. Cauliflowers were very good early, but have been loose and premature during the heat. There will, no doubt, be plenty of fine heads later. Brussels Sprouts have been liberally planted and look well. Spinach has rarely been seen good of late. White Turnips have been prematurely blighted, yet good promise from late sowings. Carrots have suffered very much from thrush and spider, the foliage being reddish, but the root will doubtless cause them to improve. Onions have not been remarkably good, the maggot having given very little trouble. Celery looks very well, but good Lettuces are rare. On the whole for vegetable culture, the season has been one of great trial.—A. DEAN.

Old Warden Park, Biggleswade.—Apples are an average crop, very healthy. Louise Bonne of Jersey and Bon Chrétien Pears generally good, but small. Plums of the popular kinds are thin, the best being Victoria and the old Orleans Cherries of the Morello type good crop, but rather small. Peaches and Nectarines are a full crop, but generally small, through the long spell of dry weather. Apricots are very thin, but the trees very healthy. Gooseberries and Currants plentiful. Gooseberries very fine. Strawberries generally were a disappointing crop, but good results followed generous treatment during the long drought.

Vegetables during the long drought have suffered very much. Potatoes have suffered also through the dry weather, and are consequently very small, but free from disease.—G. R. ALLIS.

Arundel Castle, Sussex.—Apples under average. Lord Suffield, Cox's Pippin, Lane's Prince Albert, Blenheim Orange, Old Nonsuch, Warner's King, Stirling Castle and King of Pippins are carrying the best crops. Pears under average, Williams' Bon Chrétien, Louise Bonne

of Jersey, Pitmaston Duchess, Doyenné d'Eté and Jargonelle being the best. Peaches and Nectarines average; trees are troublesome to keep healthy owing to the hot and dry weather. Apricots average. Currants, Black and White, average. Red under average. Gooseberries very heavy crop, quality excellent. Raspberries average, small owing to want of moisture. Almonds average. Nuts under average. Walnuts average.

Tomatoes outside doing remarkably well. Early varieties of Potatoes are yielding rather light crops, quality very good. Beans—Broad not doing well owing to drought; runners and dwarfs where watered are doing tolerably well. Peas, early varieties, did very well considering the dry weather. Dickson's Harbinger I consider one of the best and earliest, bearing a splendid crop and good flavour.—E. BUREBERRY.

Mereworth Castle, Maidstone.—Apples are very patchy; in fact, on the whole the crop is very light. The trees are looking fairly well, although the caterpillars, &c., made sad havoc with the foliage early. Pears are light. Plums scarce. Cherries somewhat thin, but very good in size and quality. Nuts exceptionally heavy in some gardens. Peaches and Nectarines were never better. Strawberries good. We have a good average crop of Black Currants, but in the neighbourhood the crop is light. Apricots are fairly good and a nice crop.

Potatoes good and free from disease as yet. The tubers will not be large, but of good quality. Peas—midseason were never worse, early sorts good. Our best were Chelsea Green, Bunyard's Early Dwarf, a fine Pea, and William L. Following these, Criterion still outstrips our best and most reliable kinds. The Marvel did well, but Telephone, Prodigy, &c., are bad in the extreme. Champion of England fairly good for the season. Later kinds, such as No Plus Ultra, Goldfincher, &c., are looking well. On the whole, vegetables are far short of what they should be. Drought and heat combined have in many instances proved too much for them.—H. MARKHAM.

Syon House, Brentford.—The season, owing to heat and drought, has greatly affected small fruits and caused Apples and Pears to drop. On our thin soil we have suffered greatly. Apples set a wonderful crop, especially those of the Codlin type, such as Lord Grosvenor, Manks and Keswick, and in spite of drought are laden with fruit. The same remark applies to King of the Pippins, a great number of trees being grown in this locality. Choice dessert kinds such as Cox's Orange, the Russets, and Pearmaine have but a thin crop, and many late cooking varieties with a few exceptions, Alfriston being a notable one, have dropped the fruits badly. Lane's Prince Albert and Alfriston are our two best croppers. Pears are an average crop; some trees have more than they can well carry, others very scarce. Cordon trees are mostly cropping freely, but these have received better treatment in the way of mulching and moisture. Our best fruit this season are Louise Bonne of Jersey, Durondeau, Pitmaston Duchess, Maria Louise, English Heyes, Beete Baltet, Glow Monarch, and No. Plus Mearis. Young trees are best; many of the older trees have not a single fruit. Plums are an average crop, a few exceptions such as Victoria are heavily laden, others, mostly dessert, have a poor crop. In the market gardens close round there are very heavy crops of Victoria and Pond's Seckling, the trees breaking down with the weight. Cherries of all kinds are much above the average, though the season has been a short one owing to the heat and drought, and the trees were badly attacked by black fly, requiring much attention to prevent its spreading. The late kinds such as Bigarreau Napoleon, St. Margaret, Morello and Flemish Red are very fine this season. Apricots, Peaches, Nectarines are plentiful and good. I gathered Large Early on July 15, and Oullin's Early Peach next day. Moorpark, Hemskirk, and others are equally early this year and good; there has been but little bad wood and the trees are making a clean growth. Of course they have required much

moisture to get good results. I am much pleased with the Peaches and Nectarines, and the condition of the trees shows they like plenty of warmth if they get ample moisture. The trees set very heavy crops of fruit and are making a wonderful growth. We are this season in advance of 1853, one of the earliest years on record. Amsden June and a few others are all gathered at the time these notes are written (July 18), and Hale's Early, Condor and Early Canada are nearly ripe. The later varieties, such as Barrington, Dymond, Noblesse and Royal George, promise grand fruits and in quantity. Nectarines are equally good. I have this season found how valuable the new Early Rivers is for open walls planted alongside of our old favourite, Lord Napier. It is much

and healthy. Peaches and Nectarines on south walls are a plentiful crop, but the trees are very much blighted. Strawberries were an abundant crop, but small, the flavour being excellent. Raspberries, Gooseberries and other small bush fruits are average crops, though much smaller than usual on account of the long continued drought.—JAMES TULLY.

TREES AND SHRUBS.

THE JAPAN QUINCE.

(*Pyrus japonica*)

The fruits of this *Pyrus* herein illustrated are large, and though they do not become brightly coloured when ripe, as many of their allies do, yet their fragrance at that time is very tempting, but they are by no means pleasant to the taste. It is indeed as a flowering shrub that this *Pyrus* claims attention, and in this respect it stands in the very front rank, for it possesses so many desirable features. In the first place, when trained to a wall its rich-coloured blossoms serve to brighten up an otherwise dull winter's day; next, though often treated in this fashion, it is thoroughly hardy when grown as an open bush, though in this case, of course, its season of flowering is later. Under whichever conditions it may be grown the blooming period of this *Pyrus* extends over a considerable time. It is one of those subjects that may be regarded as everybody's flower, for many a cottage is during the winter and spring enlivened with its bright-coloured blossoms, while in the largest and most ambitious gardens it is frequently represented by several varieties. When grown in the open ground this *Pyrus* is not seen at its best if dotted here and there in a shrubby border or similar position, but is very effective as a bush on the open lawn, while three or four distinct kinds grouped in a good-sized bed will form a most attractive feature when in bloom, and be an object of interest throughout the year. The varieties are numerous, the principal feature of each being the different colour of the flowers, which range from pure white to deep crimson through various shades of blush, pink, and scarlet. This *Pyrus*, which at one time was more generally known as *Cydonia japonica*, was introduced from Japan in 1815, but little seems to be known of its early history. Its merit, however, asserted themselves before any great length of time had elapsed, as it was by Loudon referred to in the following terms: "One of the most desirable deciduous shrubs in cultivation, whether as a bush in the open lawn, trained against a wall, or treated as an ornamental hedge plant." Though it is many years since this was written, Loudon's opinions will, I think, be still endorsed by everyone at

the present day. A good rather deep loam that is always at least fairly moist suits this *Pyrus* best, but it is by no means fastidious as to soil or situation.

An allied kind is *Pyrus Mauliei*, which is of far more recent introduction, having been obtained from Japan by Messrs. Maule, of Bristol, after whom it was named. This *Pyrus* made its appearance as a novelty in 1873. It differs in many widely marked features from *P. japonica*, being much less in growth, with smaller foliage and flowers, these latter being of a bright orange-scarlet as a rule, though in tint they vary somewhat. The fruits are borne more freely than in the case of *P. japonica*, while they are in shape more like an Apple, and when ripe are of a rich golden yellow, flushed with red. In the early part of May *P. Mauliei* is an extremely bright object when laden with blossoms, and frequently its fruits form an equally effective autumn feature. There is not nearly as wide a divergence from the normal type in this species as there is in the allied *P. japonica*, for this last is represented in different lists by varieties innumerable, while *P. Mauliei*, though it shows a certain amount of variation when raised from seed, has only, as



Fruit of *Pyrus Mauliei*.

earlier and a splendid fruit as regards size and colour. Lord Napier, Humboldt, Pine-apple and Rivers' Orange are all excellent. Small fruits, such as Strawberries, Raspberries, Gooseberries, and Currants, are good. Strawberries have been good and abundant. Irately mostly upon young plants and mulch freely. These fruits were very early, good dishes being had the end of May, and Latest of All has given us a good early July supply. Raspberries have suffered from heat. Superlative is our best variety. Gooseberries are plentiful, but Currants dropped badly through drought.

The vegetable crops have been excellent all through the spring and early summer months. Cabbages turned in much earlier than usual, good heads being secured in March, and I never remember a more plentiful supply of all kinds of winter and spring Broccoli. There was no loss by frost and the heads were good. The succession crops of Cauliflower for summer supplies have not been good, the drought having been too great. French Beans where given ample attention have been earlier than usual and good, but Broad Beans suffered much from drought in our light land. Asparagus was good and abundant, and the first crop of Peas very good; midsummer varieties have been less plentiful, the season being a short one. Potatoes have suffered from drought; the first crop though heavy was small, but the quality first-rate. A 1, Ringleader, and Sharpe's Victor were fit to lift at the end of May from the open ground. There have been very good crops of Veitch's Ashleaf, not a tuber diseased, and the large cropping American kinds such as Early Puritan are excellent this season, a dry time improving the flavour. Sutton's Supreme is very fine both in crop and quality. Later kinds promise well, and so far there is no disease.—G. WYTHES.

Amport House, Andover.—With the exception of Apricots, the fruit crops are very satisfactory here this year. Apples are a heavy crop, the best we have had for the last five years, more especially on old standard tree. The best varieties are King of the Pippins, Hawthornden, Lord Suffield, Kewick Codlin, while on espalier-trained trees the best are Tower of Glamis, Duchesse of Oldenburg, Devonshire Quarrenden, Irish Peach and Cox's Orange Pippin. Pears and Plums on walls are an average crop, the trees being clean



Fruit of *Pyrus japonica*. From a photograph sent by Mr. J. C. Seabrooke, Grays, Essex.

far as I am aware, one decided variety. This is superba, whose blossoms are much richer and deeper in colour than the common kind. When first introduced it was thought likely that the fruits of *P. Mauliei* would prove useful, but they can only be eaten as a preserve. It is as hardy and indifferent with regard to soil as *P. japonica*, and when a group or groups of this last are planted, *P. Mauliei* is just the thing for the outskirts thereof.

Desfontainesia spinosa.—Most people regard this as being somewhat tender, but according to

my experience it is about as hardy as any ever-green plant we grow. I have bushes of it growing in my garden, and beside them Arbutus, Portugal Laurel, and Photinia. All were planted three years ago. The severe frost of 1894 and 1895 killed the Arbutus down to the ground line, and the Portugal Laurels and Photinia were terribly injured by it, while the Desfontaines remained unharmed, as it blossomed as well the following season as at any time before or since. I just mention the circumstance to show its hardy character. It is somewhat slow in growth, and as it flowers at a time when there are few flowering shrubs in bloom, it is valuable where variety is wanted.—J. C. C.

Elm Louis Van Houtte is a very vigorous growing golden variety of great merit. It is not quite so bright as the variety Dampieri or Wreedi-surea, the colour of Louis Van Houtte being a russety golden colour, but the growth is much superior, and it can be confidently recommended for park planting.

Rhododendrons in America.—The following Rhododendrons (according to *Gardening*) are perfectly hardy in New England: *Album grandiflorum*, Alexander Dancer, *Arcimedes Bacchus*, *Bluebell*, *Caractacus*, Charles Bagley, Charles Dickens, *Delicatum*, *Everestianum* (rosy lilac, free blooming), *Giganteum* (bright rose), *Guido*, *Hamelii*, *H. W. Sargent*, Charles Sargent, James Bateman, *Kettledrum*, King of the Purples, Lady Armstrong, Lady Clermont, Lady Francis Crossley, Mrs. Harry Ingersoll, Mrs. Charles S. Sargent, Mrs. Milner, Old Port, Rosabella, Roseum elegans and Sir Thomas Sebright.

Corylus Avellana aurea is a splendid addition to our hardy coloured deciduous shrubs. The Purple Hazel when growing freely (and not starved, as is too often the case) is a very fine shrub, and a golden form should be equally valuable. The two varieties grouped in one bed would make a very effective mass of colour all through the summer months. They should be hard pruned each year and well manured; the foliage then would be large and well coloured. Standards and half-standards of them would also be very useful to plant on lawns or in the shrubbery provided they have as much sun as it is possible to give them.

FLOWER GARDEN.

PRIMULA DENTICULATA.

It is always a matter of some surprise, seeing the ease with which plants of this species may be raised from seed and how freely the latter is produced, that we do not more often find them used in spring gardening. If we, again, bear in mind that its peculiar shade of colour is not very common, I think one may assume that some pretty garden effects may be obtained by its free use or in company with other things, or, again, when grouped in the rock garden. The forms of Himalayan Primroses can vie with almost any hardy plant for general effectiveness either in its large handsome tufts of broad leaves or its dense clustered heads of lilac flowers. And when speaking of these forms of Himalayan Primroses I would be understood to mean not only the above-named species, but also its many variable forms, which include cashmeriana, and by going a little wider embrace also that equally valuable, though in many gardens less reliable, species *P. capitata*. These are so nearly akin in general aspect, that they may all with advantage be grouped in a somewhat similar manner. The last named species has almost globular heads of flowers of the deepest purple-blue, a most distinct and often varying shade of colour. This is invaluable for grouping in the rock garden in deep loamy soil and a position removed from hot

sun. In the cool house this is a capital plant for winter work in pots, and should be largely grown for this purpose alone. Seeds are freely produced and plants may be raised abundantly where required. It should be noted that *P. capitata* is not so truly a perennial as the other kinds, and therefore there is greater need for more frequent renewal by seed. There are many positions in the garden suited to these plants, and none more so perhaps than the half-shady parts of the woodland or the drier parts of the bog garden. In either of these a group of fifty or a hundred plants will produce a splendid display.

P. denticulata has heads of blossoms less globular in shape and of a pale lilac, which also is most variable in colour. The variety *pulcherrima* has larger heads of flower of a deeper shade of colour. There is also a white-flowered variety of this plant, *P. denticulata alba*, a group of which is shown in accompanying illustration. It is in reality, and also unfortunately, not a pure white flower, though sufficiently white to merit the varietal distinction. It is quite possible that having thus departed from the typical plant in point of colour, a good and pure white may yet be forthcoming, while to those who have plenty of spare time I would suggest crossing this white variety with the snowy Primrose through a series of years, with the object of securing the snowy heads of pubescens alba on a more vigorous habit of growth. These varieties of denticulata are distinct in having no meal on the stems and leaves, while in *P. cashmeriana* the plant is covered with a dense mealy farina. This last-named form is perhaps the most vigorous of all, revelling in a soil which is both deep and fairly rich and rather moist, for here it produces its densely formed heads of pale blue or lilac flowers on stout stems, often 18 inches high, and frequently, where shade and moisture are always at hand, even more. By the term moisture here applied, and which is applicable to all save *P. capitata*, which is more content in drier spots and partial shade, it will be found all sufficient if the roots are in touch with the moisture, as the crowns very quickly perish if long submerged. But, given this moisture at the root, the plants will bear the fullest sunlight, or, where these conditions are not forthcoming, may be well grown on a border that possesses a fair amount of shade as well as a good depth of soil.

In raising seedlings, the plants are always best if potted or planted out at once in permanent positions, as any check in their earlier stages is a detriment to after success. Apart from seeds, it may be noted that any specially distinct kinds may be increased by root cuttings in winter. This operation has been frequently described in *THE GARDEN*, though it is really only worth while in quite exceptional cases, seeing the splendid results obtainable from seed.

E. J.

Iris Milesii.—Hitherto I have never thought very much of this, but recently I saw in the garden at Narrawater a fine clump 5 feet or 6 feet across, with dozens of flower-stems, quite 4 feet high, abundantly flowered, the colour much brighter than I had been accustomed to see it. The flowers are not large and showy in the sense that those of *I. Kampferi*, for instance, are, but so grown it was most distinct and effective, looking, in fact, like a giant Morea.—T. SMITH.

Lilium candidum and the leaf disease.—This, I think, is more a matter of weather than anything else. This season, owing to the dry, warm conditions prevailing, this Lily flowered splendidly—leaves and stems perfect. Many thousands in beds and clumps in various positions were

all equally healthy. The flowering, however, was scarcely over when the weather changed to almost constant showers, and in ten days the leaves were quite destroyed. This not only refers to *L. candidum*, but to *L. croceum* also. Nor do I think that the presence or absence of disease germs very much affect the matter. Three years ago these Lilies were simple denizens and not a flower opened. The person in charge allowed the stems to remain, fall down and rot on the ground, instead of taking what I should have thought to be the very necessary precaution of clearing away not only the stems, but the surface soil also, and burning it. I fully expected that the following season the disease would be rampant, but instead the summer was dry and not a solitary trace of disease appeared, and these Lilies never were so good. It is well known that Lily bulbs should never be dried, in fact it is often disastrous so to do. The Kew people may be able to afford such an experiment as suggested on page 87, but I, for one, should most certainly never dream of making it.—T. SMITH.

GERANIUMS IN THE FLOWER GARDEN.

Desire the rage which for a few years existed for carpet bedding, it is now almost a thing of the past—so far, at any rate, as private places are concerned. We see it still, though on a much reduced scale, in public parks and recreation grounds, but its doom is sealed, and in a few years hence visitors to the latter places will look for it in vain. Coupled with its extreme formality is the fact, that, viewed from a distance, it has no effect whatever, and everyone who has had any experience with it knows that, owing to the multiplicity of subjects which sometimes have to be used in a single bed to complete a special design, unless the plants are well spaced and pinched, so as to prevent the larger things from outgrowing the small—is incurred. Although willing to admit that in the old-fashioned form of massive bedding the formality cannot altogether be excluded, yet for the adornment of large flower gardens it will take a lot of beating, and that for viewing at a distance it positively has no equal. The spacious garden at Ryebury Abbey (the residence of the Hon. Mrs. Stanhope) in fine sunny seasons presents a sight worth going a long distance to see, and a similar sized one at Melton Constable (the seat of Lord Hastings) was last summer rendered extremely beautiful by a happy combination of the various hues Geraniums, Calceolaria (which seem to escape the too well-known disease in that neighbourhood), Lobelia, and a host of other well-matched subjects. The improvement of bedding Geraniums has been very marked of late years, although some of the older varieties will hold their own in their respective sections. The most popular dark crimson bedder at the present time is Henry Jacoby, the demand this season in some districts being greater than large growers could supply. Another capital scarlet is John Gibbons, much in favour for bedding in the midlands, and to him belongs the record of greatest size. It has a fine bushy habit and is very free. Triomphe de St Omer is another excellent dark scarlet flower, belonging to the neegee class; its noble trusses, which are produced in great profusion, being very effective when seen en masse. For a good scarlet of the dwarfer section, the old Vesuvius is still one of the best, one of its best points being resisting wet weather well. Vesuvius should be planted closely, as its habit of growth is not so spreading as some. The semi double Wonderful is likewise a first-class Geranium of the same colour, being exceedingly free-flowering, and holding its trusses intact in rainy weather better than the single forms. As a pink bedder Christine is still worth retaining, its free-flowering character being well known; its chief drawback is its nor.-resistance of wet weather. A comparatively new variety of this class is E. F. Crocker, which, although much of the same habit of growth as Christine surpasses it in richness of colour; it is said to be a sport from Christine. Of salmon shades Mr. F. Bartleman must be placed

in the front rank as an effective bedder. Mrs. Pollock and Mrs. Harry Cox in the golden tricolour, Crystal Palace Gem in the golden edged, and Miss Kingsbury and Little Trot in the green and white-leaved section are as good as any. In the bronze-leaved section Black Douglas is as good as any. Geranium raisers may take heart, as, judging from the last year or two there is every probability of an increased demand both for good bedding and pot varieties in the future. J. C.

THE EULALIAS.

The Eulalias are hardy and ornamental perennial grasses of robust growth, 6 feet to 7 feet high. Established plants form clumps 17 feet to 18 feet in circumference. The brownish violet flower panicles of *E. japonica* have at first erect branches, but as the flowers open these branches curve over gracefully, and resemble a Prince of Wales' feather. Each of the numerous flowers has at its base a tuft of long silky hairs, which contribute greatly to the feathery lightness of the whole. For isolated positions on lawns this kind is excellent, or it might be used in groups or on the margin of the shrubbery. Even more valuable than the type are the two variegated forms—variegata, with leaves longitudinally striped with white and green; and zebrina, with distinct cross bars of yellow on the green, which render it singularly attractive. These variegated forms, particularly zebrina, are not quite so hardy as the type. *E. gracillima* is very beautiful, as the accompanying illustration shows. It is well worth establishing in our gardens. The Eulalias are increased by either division or seed, and come from Japan.

DOUBLE DAFFODILS TURNING GREEN.
The blooms of my double Daffodil Van Sion, of which I have a large quantity, have all turned green, the flowers deformed, for the past two seasons. The same trouble exists in many other gardens. I have tried shifting to other ground, also applying stable manure and desiccated night soil without effect. Can you suggest a remedy? Is there a variety of *Narcissus* called nobilissimus? If so, is it a double Tazetta, and what is the colour? I can find it mentioned in Baker's "Amaryllidaceae," though I have seen the name in one of the English trade catalogues.—A. Mox.

Tazetta. *N. speciosa. Andromeda.*
** The question of double Daffodils having green flowers is an old one, and in our opinion the cause is to be sought for in the weather. The double Daffodil requires plenty of sun and warmth to develop its flowers to perfection, and thus be of a good yellow colour. During the springs of 1890 and 1891 in England the flowers of double Daffodils generally came green, and in those years we suffered from cold and sunless springs.

Narcissus nobilissimus belongs to the Tazetta or Polyanthus section of *Narcissi*, and is distinct from the double Roman *Narcissus*. It would not be found in Baker's "Amaryllidaceae," since it is a double flower, and therefore a garden monstrosity.—BARK & SON.

Enothera speciosa.—The washy-looking tints of some varieties of this plant are not very attractive, but I have several plants now bearing flowers of the purest white, and though these were knocked about badly by the heavy thunderstorm on the 26th ult., they are now holding up their heads bravely. It is a very free growing and useful herbaceous plant. A native of North America.—R.

Chamopeucea diacantha.—The hot weather and continued sunshine have apparently suited this variety of the Fish-bone Thistle. Plants raised from seed sown in March are already 2 feet and upwards in diameter, the pale green and white foliage and hard, sharp spines having a dis-

tinct appearance. It is a suitable plant for single effect, a large, well-grown specimen in a prominent position in a border or in the rock garden being sure to attract attention.

Platycodon Mariesii.—The large, deep blue campanulate blossoms of this fine plant have now for over a fortnight been brightening up the heraceous border. It is of the easiest culture and large clumps of it are extremely attractive. Seeds will ripen in plenty if allowed, and plants are by this means easily raised, this perhaps being the most suitable method of propagation. The old

GARDEN. It is a grand outdoor Lily, whether seen in a mass by itself or associated with shrubs. Selections of Lilies suitable for pot culture are occasionally made, but with regard to this, it may be pointed out that the variety splendens is by far superior for such a purpose to any of the other Tiger Lilies, for when confined in pots the foliage is apt to suffer, while splendens retains its leaves. The typical *L. tigrinum* is often planted, doubtless because it is cheaper than splendens, but the difference in price is not great, and, as a rule, from the Dutch cultivators we obtain finer



Eulalia japonica gracillima.

plants may also be taken up after flowering, carefully divided and replanted. It is one of those useful and showy plants that should find a place in all gardens.

Tiger Lilies.—As might be supposed in a season like the present, the different Tiger Lilies are flowering earlier than usual. Of the different forms, by far best is the variety splendens, or Leopoldii, which is in every way much superior to the ordinary Tiger Lily, as may be readily understood by the many notes in its favour which are scattered through the different volumes of THE

bulbs of splendens than of the ordinary form. The double-flowered variety, once thought so highly of, is admired now by very few, and to my mind altogether wanting in the grace and elegance of the single forms.—H. P.

Cassia corymbosa.—Occasionally in some old-fashioned garden a large plant of this Cassia may be found which can be depended upon to flower well every summer, and during the winter it is kept in the conservatory, or somewhere just clear of frost. In some of our public gardens, too, it may be seen growing outside during the

summer associated with other tender subjects. The excessively hot weather of the present season seems to suit it well, for it is quite a mass of its golden blossoms, and bids fair to continue for some time. It is, as a rule, far more frequently met with among our neighbours across the channel than it is in this country. *Cassia corymbosa* is a native of the neighbourhood of Buenos Ayres, and was introduced in 1795. It is of easy culture, succeeding, as it does, in any ordinary potting compost. The principal thing to be observed is the thorough ripening of the wood towards the end of the summer.

* This plant used to be planted out every season in the Royal Horticultural Society's gardens at Chiswick, and flowered splendidly. On the approach of frost the plants were lifted, cut down and potted, and placed in a house with *Pelargoniums* until required again for the flower garden. They invariably did well treated thus. *Plumbago capensis*, gives the same treatment, also flowered splendidly. The plant here figured is growing against a west wall in Major Gaisford's garden at Offington. It covers a space quite 9 feet high, forming a spreading mass of glossy leaves, which greatly add to the beauty of the flower garden. It stood the severe winter of 1894/95, but for better protection the shoots had been tied into a bundle.—ED.

FLOWER GARDEN NOTES.

CARNATIONS.—In a season like that of 1896 the Carnation is, on a light dry soil, second to no flower if sufficient knowledge and energy is thrown into its culture to counteract, as far as possible, the influence of the weather against it. Perhaps one is bound to acknowledge that the first-class Rose is better than the best Carnation, but there can grow the latter flower successfully where Roses are poor and short-lived, and for a fine display on the border or their value in a cut-state. Carnations in variety are quite at the top of the tree. We have started layering rather earlier than usual this year, commencing on July 20 with Countess of Paris and Mrs. Reynolds-Hole. *Apresos* of the last-named, I have to acknowledge several letters recommending good substitutes in the event of splitting tendencies being greatly in evidence, and note that whilst midland and south growers are in favour of *Carolus Duran*, those further north pass this variety by in favour of *The Beau*, *The Pasha* and *Sigurd*, a fact, coupled with the knowledge that *Carolus Duran* is of French extraction, leading to a doubt as to the hardiness of that variety. The variety grown by Mr. Brotherton, of Tynningham, under the name of *Sigurd* is the finest self apricot I have seen both as to size and quality, that is as a *bond fide* border Carnation. It is comparatively unknown in the south, and presumably a northern seedling that has not as yet reached us in quantity. A reminder to those just about starting the cultivation of Carnations is to layer early and carefully, choosing the best grass obtainable and not to neglect daily attention in the way of watering, if the weather keep hot and dry, until the points of the grass indicate that the layer is beginning to shift for itself and the chaff between the petals severance is at an end. If a batch is wanted for pot work, note must be taken of the quantity required and an additional number put down, choosing the stoutest, healthiest grass and giving the preference to free flowering sorts of dwarf, sturdy habit, like, for instance, the old dwarf crimson Clove. I was reluctantly compelled to discard this some few years ago owing to the fact that the foliage was practically destroyed by spot (it would be covered with the disease when varieties on either side were quite free), but now that the mixture for which we are at least indirectly indebted to Mr. Martin Smith has proved efficacious in the case of Malmaisons, I hope once more to work up a batch of the old favourite. Although several ingredients are responsible for the building up of the above mixture, I take it the sulphate of copper is the real destroyer, and would

do the work alone if used with discretion. Where no layers are required from Carnation beds and it is determined to run them on for another year, the plants can be overhauled as soon as they are out of flower, and all but a few of the strongest shoots removed. The beds can then be touched over with a small fork, loosening them to the depth of 1 inch, and when this is done a layer of spent Mushroom or peat Moss manure can be put on and the shoots pegged down in several directions to cover the beds fairly well. The drawbacks to the system are smaller flowers than are obtainable from one-year-old plants and a little difficulty in staking, but if a mass of flower is required, such beds will furnish a grand display.

TUFTED PANIES.—Propagation of these commenced to-day, July 27, as I like to get most of them in by the end of the month, early propagation meaning a sturdy bushy plant for turning out by the end of September. Taking the dry weather into consideration, they have done remarkably well, and one or two good soakings have not only kept them in flower, but encouraged the tiny central growths, so that they are just about the right length for removal, and a careful splitting off will bring many of them up with the tiny rootlets attached. White Swan, Duchess of Sutherland, William Niel, Mrs. Bellamy, Archie Grant, with Ardwell Gem and Bullock among the primroses and yellow, have again been among the best, not that others have not flowered equally well, but in a season like the present it is difficult to tell which are the best. Those other than selfs have run out to an extent that renders them practically unrecognisable and their worth, except for dressed beds, proportionately lessened. Given a hot dry sun, it is a good plan to take a small basinful of water, and if the cuttings are tossed in this and then transferred to the ground directly after they have their slight trimming, there is no flagging and consequently no check, or rather no avoidable check. They want shading for a time if the weather continues bright; a roll of tiffany will answer the purpose admirably. Soil from old cutting pots and boxes to which a little leaf mould and sand has been added is a good compost, and if it can rest on a firm bottom so much the better; the plants can be lifted more readily and transferred to permanent quarters more successfully if the roots are fairly well under control and not diving down deeply into light soil. Any sorts from which as yet no cuttings are obtainable will get an extra soaking of water, and if too late for cuttings they will be divided presently into as many little plants as may be required.

ANTIRRHINUMS.—Writing of Tufted Panies brings Antirrhinums to memory, from the fact that in future bedding operations they are likely to be more frequently associated, a little experiment in that direction during the current season having been a decided success, and the honeysnapdragon will take the place of Begonias, the latter flower, except in damp seasons, not doing kindly out of doors with us. A selection of pronounced colours in white, scarlet, crimson, yellow, and primrose is easily procurable from a batch of good seedlings. Selections as to height must be made required, as the seedlings will vary considerably in this respect. I notice in the *Dictionary of Gardening* calls the bedding plants conference paper on their value as bedding plants and suggestions as to other things that will associate well with them. Let me in this direction strongly recommend Antirrhinums. Whether the relative heights give just about the right effect combined with the marked contrast in habit, the colours blend well together, or that, being both hardy subjects, the association has a natural look, or something of all three, I know not; certain it is that a combination of Antirrhinums and Tufted Panies carefully planted makes a very charming bed. Cuttings of the selected colours may be taken any time towards the end of August and inserted in boxes, using a light sandy compost. If sufficient boxes are to hand, the cuttings can have a fair amount of room, enough that is to allow for their development into nice bushy little plants, so that they may be transferred direct to the flower garden

without the necessity for boxing off preparatory to the final planting.

USEFUL AUGUST FLOWERS.—Now that the beauty of the Gypsophila is on the wane, the varieties of Sea Lavender, *Statice latifolia* and *S. Gimelini*, are very useful. A few seasons back, having a border already partially filled with shrubs and conifers, I decided to complete it with the three plants above named and here and there a piece of *Tamarix gallica*. This is now a very useful border, from which we can cut plentiful supplies, and the effect produced by these in contrast with the foliage of variegated Hollies and Buckthorn, *Retinosporas*, and the erect form of *Cupressus viridis*, is decidedly pleasing. A broad edging of the common Pheasant's-eye Pink completes the arrangement. Sunflowers (perennial) are not so strong as usual, but are flowering early and very freely. Rigidus and var. grandiflorus among the singles, and multiflorus plenus and *Soleil d'Or* in the doubles were gay by the middle of July. If flowers are not required for cutting, decaying blooms will be promptly removed to ensure a longer display. Despite the drought, the newer *Phlox* are flowering grandly, and their value when contrasted with the old types is even more marked than usual. Centres will be pinched out as the flowers are on the wane to allow for side shoot development. Starworts available during the present month vary considerably in habit and are useful in mass, as *acris*, the varieties of *Anemulus* and *levis*; or for furnishing elegant sprays for vases, as *cordifolius*, *sagittifolius* and *Shortii*. The number of sorts available for the latter work right away from July to November is now so great, that they deserve a special note, and I hope to furnish the same some time before the planting season.

E. BURRELL.

Clairemont.

NOTES FROM NEW JERSEY.

HYDRANGEAS.—*H. hortensis* is a popular shrub about here, and I see large specimens frequently standing on little lawns, the plants being in tubs and of course have winter protection by removal to greenhouses or cellars. They look very handsome now covered with great heads of pink blooms. The object of this note, however, is to mention one or two other species less known, but very beautiful and hardy enough to be used with good effect in English gardens. Foremost among these is the Oak-leaved *H. quercifolia*, which the "Dictionary of Gardening" calls a half-hardy shrub, but, all the same, it stands zero weather with impunity, and is one of the most beautiful of outdoor shrubs, strikingly distinct in foliage, and possessing no small degree of merit as a flowering shrub. I lately saw stronger testimony of its beauty in the luxuriant growth of some bushes that have been established about three years. Leaves 10 inches in width are plentiful upon the bushes in question. The flowers, now abundant, disposed in branched pyramidal heads like those of *H. paniculata*, are all small except the terminal one, which is sterile, with broad petals and borne on a longer pedicel. Another Hydrangea we have in great variety is named *H. strobliana*, a name strange to me and possibly a doubtful one, but the shrub is very handsome alike in growth, leaf and flower. Its leaves are broadly ovate, inclining to heart shape, the larger ones 6 inches long by 4 inches wide, of a deep dark green above, with under surfaces of a uniform charming silvery white. Some of the bushes are nearly 5 feet high, every shoot terminating in a flat corymb of sweet flowers, mostly perfect, but a few of the outer ones are broad-petaled and sterile. *H. paniculata grandiflora* rapidly grows to an enormous size, becoming quite tree-like, but to ensure a good display of fine corymbs it must undergo hard pruning in spring.

THE VENETIAN SUMACH (*Rhus Cotinus*) does not generally develop its fullest beauty till late summer days in English gardens, but here already it is covered with its unique silky hair-like clusters, and I have seen several very fine specimens recently. The best specimens I have seen in Eng-

lish gardens are large spreading shrubs with branches resting on the ground and covering a considerable area, but those lately seen are quite trees with a clear stem of from 2 feet to 3 feet, the branches showing the same upward tendency.

IRIS KEMPFERI is the finest hardy flower of the present time, and although moisture is considered essential towards ensuring its successful growth and blooming, very little indeed but what has fallen from the clouds has reached the masses that prompt this note; yet they could not be finer, showing hundreds of great blooms and buds on stems nearly 5 feet high. These plants are on a dry exposed knoll; the ground has never been cultivated deeply, and the only attention these fine tufts have had these three years is just keeping them free from weeds. Is abundant sunshine a factor that contributes to abundant blooming? I know from past experience that an abundance of moisture alone does not suffice, but here is a hot, dry spot that I should never have thought of in connection with Iris Kempferi brilliant with hundreds of large showy blossoms, and giving promise of hundreds more. A. HERRINGTON.

MADISON, N.J.

CARNATIONS FROM SCOTLAND.

I AM sending a few good border Carnations, among which may be some that may prove worth the attention of Mr. Burrell and other growers. My own opinion is that all Carnations are hardy, though some require different treatment as to soil. All are suited for being layered early and planted early. I have enclosed a bunch of Sigrud, which with me is in every respect superior to Mrs. Reynolds' Hole, and also to The Prince, which possesses a less vigorous habit of growth. Minnie is a smaller flower, but deeper in colour and of a very pure shade, while Meteor approaches nearly, if not quite, to orange. The best scarlet is, I think, Hayes' Scarlet. Oriflamme is also fine with me, and the Port Light is particularly brilliant. Huntsman, though less good in colour, is a desirable sort. I have Chaloden on trial, and this I am certain will supersede all others of a scarlet shade. The whole of these are strong growers, Oriflamme perhaps a little weakly. Among yellows, none has as yet surpassed Germanica. Miss A. Campbell is no doubt very good, strong, and of good habit, but for out of doors I am sure that Cornuta is better. The Forty-five is very good with me, and Lothian Yellow (a sort that grows perfectly upright) will, I imagine, prove of great value for borders and beds. As to hardiness, all the above wintered 1894 and 1895 in the open ground. Of rosy shades I have sent Midas, Clove, Duchess of Fife and Ketton Rose; none are better than these. Lady Nina Balfour, of which I enclose a nice bunch, is much better than any other light variety. It is of a different tint from Countess of Paris and Waterwitch, but superior to both. The deeper pink Sades is extra fine, and I am not sure that the Brave Lass is an advance. Foxhall Beatty is the best purple for borders, but I think Gladiator will run it hard; and a very pretty violet flower is Bendigo.

I have also sent some yellow Picotees, a few of which are really worth attention. They are all absolutely hardy, and all these, except Harlequin, are of very vigorous growth and upright habit. Harlequin, however, is very pretty and very free. Primrose League is a most lovely variety, and I know succeeds to perfection in the south of England. Cowslip is good, and both St. Margaret and Queen Esther do well with me. I am very fond of the latter, as much from the habit of the plant as from the appearance of the flowers. Vashii is a very bright form and pretty. I have put in a few fancy bowers, e.g., George Cruickshank, a glowing variety and good for the open garden; The Dey, a very pretty soft fancy; Cardinal Wolsey, very rich in colour, and Prince Charming, a nice shade of apricot and carmine, the plants being covered with bloom. Meta, belonging to the Painted Ladies, is also very pretty, and Lady Dorothy Nevilles is, I think, the brightest of the class to which it belongs.

Mephisto is the best deep crimson for borders. Crimson Pearl is good, and Firefly is a variety that does particularly well with me. There is, I imagine, a decided advance in the varieties that are being raised as to qualities that make them suitable for border cultivation. The colours are more pure, form of flowers generally more perfect, the plants are mostly of vigorous growth and of a firm upright habit. R. P. BROTHERTON.

Tynningham.

PROPAGATING TUFTED PANSIES.

I AM reminded of the sea-onable importance of the above work by a remark occurring on page 23 of THE GARDEN for July 18, which has reference to planting these things in the autumn, a piece of advice of wide and far-reaching importance to all those who attach any value to an early bloom as well as to the greatest perfection in the cultivation of these useful and beautiful plants. Indeed, it is only those who year by year have planted such things in early autumn that really know anything of their best side. To be in a position to plant early in autumn, however, a beginning must be made at the end of July or early in August with the cuttings. And who will attempt to assume that spring planted cuttings shall in any particular equal those having such a lead—a lead of far more importance than at first sight appears? The plants that are put out in autumn have several months' start of the spring batch, and having what they love most of all, a cooling time of year in which to fully establish themselves, are thereby fortified against the trying heat and drought of such a year as the preceding. Planted in autumn and under proper conditions these things are incomparable in the flower garden in spring by their extreme floriferousness, and under the influence of the cool, moist days of autumn the young plants root both vigorously and abundantly, so that this is the essential to a good display of blossoms in the earliest spring time, often before many other plants are in their places. There is much that could be urged on this side of the subject alone, did space permit, and it is to be hoped it will be urged at the approaching conference on these flowers. It will, however, be a matter for regret, seeing the great move in favour of these beautiful things, if wrong conclusions are arrived at, because the plants are not in a fit state for a correct judgment to be formed. Any trial or conference on this or any other subject should ever be based on a most exhaustive scale and as complete as possible, as almost anyone can make a relative or comparative trial in a garden of a few yards across. I am, however, diverging from the subject of their propagation, which at the moment is the more important theme. In large gardens and where large quantities of plants are needed it is always a good plan to plant a reserve batch for the purpose of securing cuttings at the proper time, and in this way avoid disfiguring the beds. In any case the best thing to do at the moment will be to cut a portion of the plants over with the knife, cutting away all the old flowering tops and other growth to within 3 inches or 4 inches of the soil. When this is done it will be seen in many varieties that the centre of the tuft is more or less charged with fresh young shoots, and it is there that will be ready in a few days to take the best cuttings. Upon no account attempt to utilize the old material for propagating, as it is useless to compare with the shoots just named. After a few days' exposure to light and air, the strongest of those young shoots should be nipped out, taking hold of the shoot low down with finger and thumb, so as to secure its being detached at the base. In many instances where this is carefully done it will be found that each shoot has already two or three tiny rootlets adhering to it, so there will be no further trouble with regard to making such cuttings as these. Apart, however, from these shoots being already rooted, they possess the additional value of many radical cuttings of pushing growth freely from the base, an item of con-

siderable importance in the hereafter of these plants. Such cuttings as these always make good tufts when planted out, and that quickly. Where large numbers are grown it will doubtless prove necessary to go over the stock plants twice or perhaps thrice in order to secure sufficient. This will always, however, depend upon the number of stools available for cuttings at the right moment. These cuttings may be inserted in two batches—the rooted and unrooted ones. The former will be best in a shallow frame, and the latter in a similar place or on a shady border, or the whole may be placed in a frame for a short time, but in this case it will be best to avoid keeping it too close, or the cuttings will be weakened. Some prefer the shady border entirely for the cuttings, but generally in the south I prefer a temporary frame that may be shaded off will for the first fortnight or so.

There is another way of securing good young plants of these Tufted Pansies, and where a limited number only is required, it is very useful and at the same time simplicity itself. The old tufts may be cut down in the way recommended for cuttings above, and when this is done, give each plant a thorough soaking of water at the root. Now take some fine sifted soil and trickle this in among the young shoots in the centre of the tuft and to about one-half the depth of the shoots; at the same time gently press each plant into the base simultaneously with the soil, and in turn treat as many plants as may be deemed sufficient in this way. When the work is finished a gentle watering will settle the soil about the growths, and this should also be repeated daily for a fortnight if no rain falls in the time. At the expiration of this period many of the young shoots will be rooted, and, to avoid overcrowding, should be lifted and severed from the parent tuft in the course of the next few days, and be planted 4 inches apart on a shady border, to establish themselves ready for planting later on. This system is perfectly simple and easy, and entails so little trouble or labour, that it has much to recommend it, particularly to amateurs. At the same time, my own experience of the two systems compels me to say that the single cuttings are in the long run superior, as by the adoption of this method you have an entirely new plant each year that can hardly fail to produce the best possible results. When these are well rooted it is a good plan to pinch out the point immediately; this will cause them to break away at the base, and if transplanted at once will form fine compact tufts for the permanent beds later on. Where plenty of room is available, the cuttings may be put in thinly, which will make it unnecessary to transplant the cuttings at this stage. In a future note I hope to say something of their general cultivation.

E. JENKINS.

Hampton Hill.

Calceolaria amplexicaulis.—The different varieties of Calceolaria that were at one time largely employed in the flower garden are not given to anything like the same extent that they formerly were, for they are liable to die off in the height of the season and thus leave ugly gaps. Calceolaria amplexicaulis was tried in some places as a bedding plant, but owing to its height and somewhat anorthodox manner of growth it did not meet with any great amount of approval, though it was put against the disease which carried off its dwarfer brethren. Now-a-days, however, when mixed beds are viewed with so much favour, this Calceolaria is far more frequently met with. This is not at all surprising, as throughout the latter part of the summer and in early autumn its bright sulphur yellow blossoms are freely borne. C. amplexicaulis is a native of Peru, from whence it was introduced into this country in 1845.—H.P.

Begonia President Carnot.—This is one of the finest Begonias that we have in our gardens, and one in all probability destined to occupy a prominent position for many years to come. It belongs to the shrubby fibrous-rooted class and was raised by M. Crozy, who announced it as a

hybrid between *B. Olbia* and *B. rubra*, but, as pointed out in THE GARDEN at the time the coloured plate was issued, this latter name is in all probability intended for *B. coccinea*, which is more generally known under the name of *B. corallina*. It is by no means a compact growing plant, as small as a bush, in sets from inch to the foot, in diameter it produces quite a large bold specimen over a yard in height. The large drooping clusters of carmine-coloured flowers are in some cases quite 9 inches in diameter, and the female ones particularly retain their brightness for a considerable time. This Begonia needs more heat than some of the others, and it succeeds best when treated during at least the greater part of the year as an intermediate house plant. We have now such a number of desirable Begonias, both species and hybrids, that in many cases a rigid selection is necessary, but however strictly this may be carried out, the claims of the particular variety above-named must not be overlooked.—T.

NOTES OF THE WEEK.

Wistaria sinensis.—In several instances this is now flowering abundantly for the second time this year, and in one instance where the plant is overhanging the tops of some Laburnums the show of blossom is very attractive.

Phlox Opera.—This is a very handsome variety with large heads of flowers of a vivid carmine, very decided in its tone of colour and extremely effective in the mass. Those in favour of decided colours should note this one.

Pelargonium King of Denmark.—Judging by a large group at the Drill Hall recently, this gives promise of being an excellent variety, producing large massive trusses of salmon-scarlet flowers. The trusses are of large size and almost globular in outline.

Carnation Mephisto.—This fine border Carnation is of the same shade of colour as the Crimson Clove, and regarded as the best of its shade yet raised. The flowers possess the most exquisite form of any Carnation, and may, in short, be regarded as perfection in this respect. It is also a free bloomer with good habit.—E. J.

Lilium Battmannii.—Mr. Wallace, of Colchester, sends us flowers of this rare and beautiful Lily. It is a species of slender growth, the leaves narrow and delicate green, whilst the flowers, produced in a bold umbel, are of a very beautiful self apricot colour, quite distinct from anything else amongst the Lilies. It is a Lily that delights in partial shade and a well-drained loamy soil.

Enothera macrocarpa.—This is a very showy plant of trailing habit, flowering well at the present time. Its large blossoms of pale yellow are showy as well as distinct, and, allowed to trail at will, it makes a desirable plant on the rockery. Beds here and there may also with advantage be devoted to it, and with the assistance of a few spikes of Gladiolus may be made gay for a long season.—E. J.

Tekelia speciosa.—A very striking subject at the present time in the large border, where its heads of golden flowers towering well above many things may be seen at some distance. Where only space for dwarf things exist this should not be included, as unless space is afforded for free and full development its beauty is lost. But where a group of half-a-dozen may be planted the effect is very good, and for such positions it is worth encouraging.

Eucryphia pinnatifida.—This is one of the many charming shrubs that Messrs. Veitch and Sons are constantly bringing to the meetings of the R.H.S., and the value of which it is impossible to over-estimate. It is indeed a lovely plant, and the masses of pure white blossoms are handsome in the extreme. Very pretty, too, and in distinct contrast with the purity of the flowers

are the brown-tipped anthers. The plant is a native of Chili, and well grown bushes of it would be most effective.

Stuartia pseudo-Camellia.—This was also shown by Messrs. Veitch, and made a very pleasant exhibit, better known and more frequently seen perhaps than the Eucryphia already mentioned. For very favoured localities these things would make charming subjects in the open air, as the masses of flowers on the exhibits fully testify. The flowers are white, with numerous gold-tinted stamens and brownish anthers. In the large conservatory, winter garden, conservatory, or Camellia house such things as these may be housed during the winter with safety, or planted out in such places constitute a most delightful feature when in bloom.

Lilium Henryi.—We have received flowers of this beautiful Lily from Mr. Wallace, of Colchester. It is certainly a splendid introduction, and its history has been often told in THE GARDEN, whilst a coloured plate was given of it in the number for November 7, 1891. L. Henryi has been well named the Orange-flowered L. speciosum, which it resembles in the shape of the flower, a clear apricot in colour. It is, fortunately, very robust in growth, and attains a height of 7 feet or more.

Lilium tigrinum.—This is a capital Lily for planting freely in beds or among plants of a shrubby habit. It is an easily grown plant in all its varieties, and being comparatively cheap may be planted in quantity, and thus produce a good effect. Some of the finest beds we have seen of this plant were in the Royal Gardens, Kew, a year ago, and these were greatly admired at the time. It is also a good sign when one sees such things flourishing so well in the open garden, as such instances afford encouragement to those about to engage in similar work.

Salisburia adiantifolia variegata.—Messrs. Cripps had a small plant in pot of a variegated form of the Maidenhair tree. For the most part the variegation appears on the upper surface of the leaves, and is not very pronounced in the small specimen under notice. The typical species does not seem to be much in favour with planters generally if one may judge by its comparative rarity—a fact in a measure due no doubt to its somewhat dense, compact habit of growth. In quite old examples of this tree there is generally an absolute want of that freedom of beauty and form now so much admired and desired in fine trees.—E. J.

Hyacinthus (Galtonia) candidans.—Twenty years' experience or so has made this a popular flower in the garden of the amateur. That it is perfectly hardy and increased readily by seeds as well as by offsets are points that strongly recommend it. Some single bulbs planted two or three years ago have now developed into fine clusters, with some half-dozen flowering stems towering up 5 feet high, and each bearing about three dozen of its pure white drooping flowers. Not only in the herbaceous border, but in the shrubbery also it is fast becoming an indispensable plant for grouping, and is showy for a long season.

Lathyrus latifolius albus.—This valuable old perennial is still among the finest of old-fashioned flowers in the garden, and where the plants are well established it has this season defied heat and drought alike. Thrips were very troublesome earlier in the season, but the rains and cooler weather have banished these to a large extent, and the plants are a mass of bloom, very fresh and pure. It is certainly among the most valuable plants for cutting, while the profusion of its flowers is remarkable. No garden should be without this variety, for it has no equal among hardy flowers, and once planted gives no trouble whatever.

Rudbeckia Newmanni.—Dwarf, showy, and compact, and producing quantities of blossom at about 2 high, this is a most serviceable plant for massing in various parts of the garden. It is in

some respects the most worthy member of the Compositae family, being so perfectly hardy and free-flowering. The golden ray florets surrounding the black centre are most truly productive of very fine effect, and for cutting it is always highly esteemed. Another feature of the plant is its well furnished habit of growth, the plants spreading out into the most handsome tufts imaginable. For bedding on a large scale it is among the most desirable plants that could be named.

Tropaeolum speciosum.—For some time the trailing growths of this hardy climber have been all aglow with its velvety-coloured blossoms, and by numerous buds promises a display of its flowers for some time to come. It requires time and patience to establish it in some gardens, and particularly in the south of England. Deep and firm planting appears to be needed, and in many instances it appears to have a liking for association with brick-work, as when planted at the foot of a wall it is usually more successful. In good condition it is among the most brilliant climbers of the garden. In those instances where it is desired to transplant it the best seasons are early in October, or with renewed growth in spring.

Romneya Coulteri.—Some large, handsome blossoms of this fine shrub were noticeable among many interesting things from Messrs. Cutbush at the Drill Hall on the 28th ult. Few plants compare with this in the exceeding beauty of its large satin-white flowers which are fully 4 inches across. This fine plant should never be absent from any garden where a warm sheltered position can be given it as well as a good depth of sandy loam. In some gardens it may be trained to a wall, and frequently flowers successfully thus treated. Taken as a whole, however, it gives the best results when treated as a cool greenhouse plant, where room can be afforded it.

Current La Vers illaiae.—I herewith send you a few clusters of the above Red Currant, which, as you will see, are large and well coloured. I have previously written in praise of this fine variety, which is unsurpassed for jelly and wine. It is a great pity it is not better known. It has been erroneously asserted that La Vers illaiae is a poor bearer, but my experience is that no variety can touch it in that respect. It is a strong grower, cuttings soon developing into large bushes. The foliage is large and develops early, shielding the fruit from indifferent weather. If market gardeners were to take up the culture of La Vers illaiae, the Red Dutch would soon be driven out of the market.—J. M. Webb.

Lilium philippinense.—This is perhaps one of the most frail members of the genus, and at first sight one may be inclined to doubt whether the slender stems were capable of supporting the long trumpet flowers that follow. In its frail and slender stems and its narrow and linear ascending leaves it is one of the most distinct of all the genus. The flowers, too, are very remarkable for their length, which may easily 7 inches to 10 inches, and also for the permanent imbrication of the perianth near the stem. They are pure white in colour, funnel-shaped, and slightly fragrant, growing about 2 feet or so high. A capital lot of plants of this species was shown in flower in pots at the Drill Hall on the 28th ult., and attracted a good deal of attention.—E. J.

Campanula Zyzyi.—This is perhaps one of the most curious and distinct of all the Campanulas, so distinct, in fact, outwardly that one may be pardoned for inquiring whether it really does belong to the Bellflower family at all. At the last meeting of the R.H.S. Messrs. Barr and Son had flowering plants in pots of this species, which only raises itself 1 inch or so above the soil. The flowers are of a distinct shade of blue or porcelain, the corolla cylindrical and constricted towards the mouth—a character just the reverse of that of the majority of the species. When freely flowered it would prove an interesting species, the flowers reclining, or nearly so, on its tufts of obtuse, obovate leaves. It is a native of Carniola, and should be planted in gritty loam in

the narrow fissures of the rockery, where free and ample drainage would be forthcoming.

Rose Mrs. Rumsey.—Mr. Rumsey, of Joyings Nursery, Waltham Cross, sends us flowers of his beautiful Hybrid Perpetual Rose Mrs. Rumsey, a sport that occurred in his nursery from Mrs. George Dickson. The more we see of this fine Hybrid Perpetual the more we like it, as it preserves all the good points of its parent. The growth is remarkably strong, the leafage stout, deep green, and without a trace of mildew—no small advantage when many popular kinds are white with the pest, whilst the flowers are produced freely until quite the autumn. It is a garden Rose to cut beds of it now being a mass of bloom. The flowers are a delightful pink colour, deepening in the centre. There is no trace of magenta or any obnoxious shade about it, simply a pure bright pink.

Water Lilies in small gardens.—At p. 33 of vol. xix. I published a short note on my experience with these charming flowers, to which I would like to add a second note. The plants obtained from Mr. Marliac in April, 1895, as tiny pieces were, when repotted and reboxed this year, fine crowns, and since then have advanced by leaps and bounds and have flowered well. To-day (August 2) the following were in blossom: *N. alba* (nearly over), *N. Marliacea chromatella*, *N. Leydekeri rosa*, *N. odorata rubra*, *N. o. exquisita*, *N. pygmaea alba* and *N. p. helvola*. *N. o. exquisita* is very lovely, deep rose colour, with the narrow petals of its tribe. *N. p. helvola* is a dainty little gem, never out of flower, with its tiny red-spotted leaves and yellow starry blossoms. My favourite, however, is *N. Marliacea chromatella*, which is admirably figured at p. 292 of vol. xxiii., but the foliage is not right. *N. pygmaea alba* I do not so much care for, and, so far, *N. odorata alba* has proved a shy bloomer, but very pretty when it does flower. This year's experience warrants my endorsing all I said in the note referred to as to the satisfaction to be had from these Lilies even in very small pools.—GREENWOOD PIM.

The Polyanthus.—It is a long time since I have known Polyanthus and Primroses so thoroughly denuded of leaves, owing to the great heat and drought. But plants that look to be dead to the casual observer are not really so. It is quite true that in shallow, dry ground some have died outright, but recently I have had to transplant a good many, both Polyanthus and Primroses, and on examining them on being lifted from the ground I find them remarkably well rooted, and the crowns plump, bright and fervent, though leafless. These, as soon as planted in fresh soil, begin to form fresh leaves, and after all there are very few losses. They are putting forth the second growth, which is in spite of the economy of the plant, and they are doing it vigorously, helped by waterings and welcome showers. The fact that the plants have rooted so well I trace to the tendency of plants at a dry time to send down their roots in search of the moisture they fail to find on the surface. We may regard the weather as broken up, and if we may also look for a copious and welcome rainfall, the Primrose and Polyanthus will no doubt bloom somewhat freely in the autumn, but that is only a prima facie habit, which is also exemplified in the case of their near relative the Auricula.—R. D.

New Water Lilies at Syon.—How well the new additions to this beautiful class of plants thrive is seen in the above gardens. Though most of them were only placed in their permanent quarters early last March, they have in most cases made such a splendid growth, that they show at a glance how valuable they will be in our gardens, while their varied and rich colours give a charming addition to the landscape. When planting, Mr. Wythes had grave doubts whether the plants would take to the altered conditions, as the water is not so fresh as one would like. It is wonderful how well the plants have done. They have thrown up large quantities of bloom and the colours are in striking contrast to those of the

older forms, which are here in great quantities. The new kinds promise to grow quite as freely and with little trouble. In the large lake running through the grounds, these new varieties appear quite at home. Being well when received, they were wintered in a cold house and placed in their growing quarters at the time named. Mr. Wythes is so pleased with them, that he hopes in a short time to give them much of the space now devoted to less worthy subjects. Mr. Wythes has done well to give the newer kinds plenty of breathing space. One of the most telling in the collection is *N. Marliacea chromatella*, very free and one of the best, I think, as regards growth and substance of bloom. *N. Leydekeri rosa* has not made the growth the others have, but the colour is so rich that it should be in all collections. It flowered very early in May, and by its appearance looks equal to doing so till October. *N. alba* is a lovely flower and a splendid grower. It is evidently as much at home as the commoner species and soon gets established. *N. carnea* is very fine and the colour most telling. There are others, but those named were the showiest at the time of my visit. *N. cerulea* is being given a trial in the open. For years it has thrived with very little protection. If it succeeds, its colour will be an additional charm.—J. B. C.

Carnation layering.—This seasonable work is now in full swing, perhaps somewhat earlier than usual owing to the warm, dry season having ripened the grass a little before the usual time. By ripening, I mean that the shoots put forth from the base of the plants have hardened sufficiently to be layered with safety. It is not well to layer when it is too young, soft, and sappy, nor when it is too old and hard, as that will frequently cause delay in rooting. Fresh, sweet sandy soil is very helpful, and the old custom of taking out 2 inches of the top soil and then filling up the pot to the rim with fresh in which to put down the layers is a good one. As a matter of course, the foregoing refers entirely to plants grown in pots, but the addition of fresh, sweet soil is quite as necessary in the case of plants grown in the open air. Mr. Robert Sydenham, of Birmingham, who at Birmingham, as well as at the Crystal Palace proved himself the champion grower of the year, uses a compost for layering made up of leaf-mould, sea-sand, and shells broken up fine. He holds that the salt and lime contained in the latter help to greatly stimulate and strengthen the layers. Weakly growths should not be layered unless the variety is very scarce one, as they rarely grow into good plants. I have tried, with a fair amount of success, potting, after the rooted layers have been taken off, any plants with weak shoots which could not be layered, shaking all the soil from the roots, cutting away the old ones, leaving as many fibres as possible, and then repotting in small pots, twisting a long stem a little round under the soil if necessary, so as to bring the head down near the soil, and then keeping the plants close for a few days until root action sets in, and carrying them through the winter with a little care. Such plants are useful for furnishing stock if they are not allowed to flower. When layered the plants should be kept well sprinkled overhead, care being taken that the runners are not allowed to flag. I think it is a good plan to take off the layers as soon as possible, that is, as soon as the roots are half an inch long, and pot them singly in small pots where it can be done. When the proper soil is used for potting and the plants are kept sprinkled overhead, they soon become active and grow into size quickly and with vigour. All weakly-rooted layers and such as are only caloused should be put into a frame or under a hand-lights and kept close for a time, and they will soon commence to make roots and grow into useful plants.—R. D.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, August 11, in the Drill Hall, James Street, Westminster, from 1 to 5 p.m. At 3 o'clock a lecture will be given by Mr. C. T. Drury, F.L.S., on "Fern Generation, Normal and Abnormal."

Royal Botanic Society.—At the annual meeting to be held on Monday next, the 10th inst., a resolution will be submitted in favour of inviting the existing horticultural and floricultural societies to hold their exhibitions in the Regent's Park Gardens and of electing on the council representatives of the leading societies. A motion will also be brought forward recommending the society to give next season, musical promenades, to be open to the public on Mondays, Wednesdays, and Saturdays, the charge for admission being fixed at 2s. 6d., 1s., and 6d. respectively. The meeting will be held in the society's gardens on Monday next at 1 p.m.

The weather in West Herts.—The past week has been again, on the whole, about average in temperature. There occurred two cold nights when the exposed thermometer registered respectively temperatures only 7° and 6° above the freezing point. Since 1887 there has not been as warm a July as that of the present year, and, taking June and July together, I find that the weather has been warmer this year than in the same two months of any of the previous ten years during which observations have been made here. Rain fell on but ten days, and to the total depth of only about three-quarters of an inch, masking the driest July since 1887. No measurable quantity of rain-water came through either precipitation gauge during the month, and none at all in the latter half of it. The average rainfall for a greater number of hours than in any July since 1887—the average duration for the past month being about seven hours a day. The winds were, as a rule, light and calm, and came almost exclusively from some westerly point of the compass. In the middle of the day the air was drier than in any July since 1887—or for nine years.—E. M., Berkhamsted.

PUBLIC GARDENS.

Hampstead Heath, 1896.—At a meeting of the London County Council on Tuesday, July 7, the Parks Committee reported that it was their intention to preserve Hampstead Heath as far as possible in its natural state. They therefore recommended the Council to reduce the number of workmen on the Heath to three, whose work would be strictly limited to clearing up refuse, clearing out water-courses, and making paths, staking and tying trees, and similar indispensable operations. The recommendation was adopted. Public opinion universally demands that no person or persons of taste should be appointed to overlook all work done on the Heath, also that many of the newly-planted trees (said to be 9000) should be removed, as it is universally felt that they are misplaced.—WALTER FIELD, A.R.W.S.

Chrysanthemums.—Last year several flowers appeared single in well-known varieties. Is this caused by some mistake in disbudding or in taking the shoots, or what is the reason?—HIBERNIA.

Campanulas in Switzerland.—I should be greatly obliged if you or some reader of THE GARDEN would kindly make a list of the varieties of Campanulas that one sees growing freely in Switzerland both in the fields and on the wayside. To my non botanical eye they are bewildering in their variety and beauty, and I should much like to obtain some of them, the taller growing ones especially.—A. D. G.

Names of plants.—W. Wilson.—*Pavonia macrostachya*; *Erythrina cristagalli*.—E. S.—*Gloxinia* not equal to many that have been raised.

No. 1291. SATURDAY, August 15, 1896.

Vol. L

"This is an Art
Which does much; Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ROSE GARDEN.

MONTHLY ROSES.

THIS appellation is generally conceded to the China or Bengal Roses, although it could honestly be given to the Tea-scented class. However, it is with the China Roses that I wish to deal with in this short article. It is becoming more and more difficult each year to determine the difference between the China and the Tea-scented Roses. The common blush China Rose is decidedly distinct from the Tea Rose, but such varieties as Mme. Laurette Messimy approach very nearly, if not quite, the Tea-scented class. The flowers of the China Roses are generally small and produced in great abundance, mostly in corymba, but not always. They are unequalled for massing, for edging to carriage drives or Rose beds, and some varieties, such as the common and Fabvier, are exceedingly useful to plant as semi-climbers in front of greenhouses or low walls. Pillars of the vigorous kinds in sheltered spots would be an unfailing attraction all the summer, and indeed almost up to Christmas Day. I am surprised these beautiful Roses are not more frequently employed in our public parks and gardens. Beds of them containing two to three hundred plants would make a grand effect if planted on raised mounds or slopes. I would certainly recommend that the plants be on their own roots; this would ensure a number of sucker-like shoots constantly springing up crowded with their gorgeous blossoms. The soil they revel in is a rich, but rather sandy loam, which should be well drained either naturally or artificially, and of course renovated at intervals with decayed and liquid manure. Provided the plants are established, they are very accommodating as regards pruning, for if we desire them kept very dwarf, they may be cut down like Oiser stools; on the other hand, if tall plants are required they may be left almost untouched. They would be found exceedingly useful for pot work to embellish the conservatory; even plants in 3-inch pots blossom abundantly. They also make capital low hedges for bordering lawns, tennis grounds and similar positions. The best variety for this latter purpose would be the Common Blush, Fabvier, and Abbé Mioland. In severe winters the plants should be protected in the same manner as Tea Roses. Fir boughs and Fern or Bracken would be very suitable for this purpose. Perhaps a list of a dozen of the best sorts would be welcome by readers unacquainted with these lovely garden Roses. I will place them in their order of merit, and will commence with

COMMON BLUSH.—This variety is so well known that little need be said in its praise. It is the freest and best of all. The colour is a blush-pink, shading off to crimson-pink. Suited either for climbing or massing.

CRAOMOIS SUPERIEUR.—Rich velvety crimson, a most brilliant and lovely colour. Rather moderate in growth. Perhaps best suited for massing, edging, or pot work.

FAUVIER.—Bright scarlet with white centre, semi-double and a fine vigorous grower. Well adapted for climbing or massing.

MME. LAURETTE MESSIMY.—This is a very popular variety, cultivated now by the thousand. It is of a very taking colour, which is a lovely clear rose, shaded with yellow. A first-rate bedding variety.

QUEEN MARY.—A variety destined to become very popular. It was exhibited in fine form at Chiswick last October. The colour of expanded flowers is a pleasing apricot tint, shaded with rose, whilst the buds are a lovely salmon-orange, quite a new colour in China Roses. The buds are charming, and will gladden the hearts of those florists who have large quantities of sprays and button-holes to make up.

MME. EUGENE RESAL.—This is a seedling from Mme. L. Messimy and is quite distinct from that beautiful variety. The colour is rosy crimson, suffused with golden and coppery yellow. I believe this will become as popular as the well-known Noisette I'deal when better known.

DUKE OF YORK.—A beautiful Rose and peculiarly variable. The buds are pretty in shape, double, and of a deep carmine colour, shaded with white. It reminds one of the Tea Rose Homère, only the flowers are richer in colour and much better formed.

ARCHER CHARLES.—Clear rose colour, changing to rich crimson, very variable, and a first-class variety.

DUCHER.—Fine pure white, very showy, and a most useful kind.

LITTLE PET (sometimes called White Pet).—The corymba of flowers when cut are almost in every way identical with Félicité Perpetué, an old-fashioned evergreen Rose. Little Pet is a charming Rose for pot work and would be the ideal Rose to plant on a grave. It is very dwarf and free flowering.

RED PET.—A good companion to the latter variety. It is of a rich crimson, changing in autumn to blackish maroon.

ABBE MIOLAND.—Reddish purple in colour and of a fine vigorous habit. **PHILOMEL.**

Rose Mme. Pierre Oger.—This is certainly one of the most beautiful of the Bourbon Roses. The lovely colouring of the flower is only equalled by its perfect formation. The petals are shell-like in shape, and are so regularly placed that the flower appears to consist of six circles of petals. The colour is ivory-white suffused with deep pink, the latter colour increasing in intensity towards the edges of the petals. It is very free blooming and of good vigorous habit, making a good Rose for a standard or pillar.

Rose Kaiserin Friedrich.—All who love the old Gloire de Dijon will be well repaid by finding room for the beautiful Rose named above. It is a sport from Gloire de Dijon, and is a counterpart of that variety in growth and hardiness, but its colour is the great attraction, this being yellow, shaded with that beautiful tint of carmine so much admired in Marie Van Houtte. The buds appear even of better shape than those of its parent—a not uncommon fact in sports. This year the carmine tint has been more intense than usual, and much earlier, as in ordinary seasons this colour is most marked in this variety towards autumn.

Rose General Baron Berge.—A splendid showy garden Rose of recent introduction. The colour of the flower is a reddish maroon with velvet shading. It is an exceedingly free-flowering variety, a quality not very common in these maroon-coloured Roses. It would make a fine variety for massing. The flower is of good size, but not very regular in form; hence we could not depend upon it for exhibition. It would make a fine variety to grow in standard form.

Rose Gloire Lyonnaise as a bedding Rose.—This season this variety has been most lovely, as the abundance of sun we have had has brought out the beautiful pale pink tint, which on the sulphur-yellow ground endows it with an additional charm. As a light-coloured Rose for massing I think it unequalled, as the large semi-double expanded flowers are produced on stiff stalks which exhibit each blossom to perfection. It should be treated during winter as a Tea Rose by moulding up the crown of the plant with earth if a very severe time is threatened.—P.

Rose Mme. Alfred Carrière.—We are sadly in need of a good white, large-flowered,

hardy and perpetual climbing Rose. We have a near approach to this in the above variety. It cannot be called pure white, the colour being really a flesh-white, but at a distance it has the appearance of being white. It is a splendid grower, and would quickly cover a wall. Like most climbers, it should be allowed to have its own way, merely cutting out a rod now and then if it becomes too crowded.

Rose Mme. Pierre Cochet.—This Rose is remarkable for its colour, which is of a beautiful reddish orange, much more fiery than the variety Wm. Allen Richardson, upon which it was announced to be an improvement. I think there can be no doubt that Rêve d'Or is one of its parents, as it resembles that variety in growth and colour of foliage. The bud is of exquisite form, long and pointed after the manner of Madame Falot, but much more double than this fine old variety.—P.

Rose Mme. Moreau.—This variety is of climbing habit, and is something in the way of Mme. Bérard, but quite distinct from that fine variety. Its colour on the inner side of petals is a deep coppery yellow, but bordered with a lovely rose-salmon and white, whilst the edges of the petals are of a golden yellow. The bud is most beautiful and well suited for buttonholes, and the foliage is of a glossy green, and the wood of the reddish colour of Mme. Bérard. As a standard it is very fine.

Rose clynophylla duplex.—An old, but rarely met with variety that should be more extensively employed on the rockery or in the wild garden. Its flowers, which are freely produced in clusters, are of a clear satiny blushing colour, of globular shape and rather more than semi-double. The great attraction, however, of this Rose is its foliage, which is of a bright glossy green something resembling the Macaratta Rose, but much larger, and the spines are long and handsome.

Rose Gloire de l'Exposition de Bruxelles.—One is instantly drawn to this Rose when looking over a collection, for at first sight it appears to be the darkest variety in the garden. The colour is a rich maroon shading off to the beautiful tint seen in Black Hamburg Grapes when fully ripe. I think what is so attractive in this Rose is that it produces three or four expanded flowers at one time on one stalk, and these flowers are erect in habit, which cannot be said of many dark varieties; consequently we have a mass of colour visible at one time, which gives this Rose so distinct a character. It is a fine free growing variety for the garden.—V.

Rose Stanwell Perpetual.—This grand old perpetual Scotch Rose is flowering profusely just now. The foliage resembles that of the Scotch Roses, and here the relation ends, for the flowers are quite as large as those of Souvenir de la Malmaison, although not nearly so double. The colour is a lovely shell-pink when opening, resembling that of the Maiden's Blush, and the expanded flowers are almost white. If we could but obtain crimsons and yellows of this type of Rose, how fortunate we should be. It should be freely planted in shrubberies facing south, along carriage drives or on rockeries.

Rose Germaine Trochon.—A very pretty Rose of good habit, colour of flowers fawn to orange-yellow, very distinct. I find it classed by Messrs. Paul and Son amongst the Dijon Teas, but with me it has not shown any of that tendency to rampant and climbing growth that characterises that section, nor are the flowers of the same form more cupped. It promises to be a useful Rose.

Rose Marechal Niel.—I have been surprised to find on plant this excellent Rose a full second crop of blooms. It is planted in a cool house and has been there for about seventeen years. I was obliged this spring after it had done flowering to cut out a large quantity of the wood, and find that it has thrown out many shoots and a good quantity of flower-buds. Of course it is pleasant enough to get them now, but I am doubtful as to what the effect will be for next

spring. I have been in the habit of cutting from 200 to 300 blooms, not very large, but still pretty and useful, and I am afraid that this second crop will interfere with flowering next spring.—R.

Rosa Longiflora Ramboer.—This is about the best of the dark Roses for climbing purposes; it is very abundant in foliage and free in flowering. It is a better colour than either Queen Marie Henriette or Cheshunt Hybrid, and if anyone wants to cover a wall or part of the house with a red Rose which grows well with Mme. Bayard, Belle Lyonnaise, Bouquet d'Or, or, indeed, any of the Dijon Teas, he cannot do better than plant this Hybrid Tea Rose.—DEBELA.

Rose Beaute Inconstante.—This flower well deserves the name, but it varies from white to dark crimson, sometimes cream colour, sometimes terra-cotta. It is a most charming Rose for button-holes or sprays, and is somewhat fuller than other Roses of the same character. It is a free grower and is very beautiful for all decorative purposes where Roses are employed.

KITCHEN GARDEN.

CAULIFLOWERS.

THESE are treated in two different ways at p. 45, and as both writers favour the cold frame treatment, I am induced to send an additional note to point out how much earlier the spring supply may be had by diverse treatment. At p. 45 Mr. Tallack does not agree with the Chiswick classification, and I admit to many it seems at variance with one's ideas of season and types of Cauliflowers. As he refers to me concerning Dwarf Erfurt Mammoth, I will briefly allude to this classification. Having seen the trials at Chiswick in 1894, I have a better knowledge of the subject than otherwise I should have. I confess I cannot class Dwarf Erfurt Mammoth with Snowball, as was done at Chiswick, as the habit of the former is more spreading, the leaves are closer to the soil, and there is a much larger head or flower than in Early Snowball. It must not be thought that I do not care for Snowball—indeed, the reverse. Growers well know that there would not have been so many synonyms of Snowball, as if it had not been liked, it would have soon been dropped instead of selections being made from it. Snowball with me is useless for autumn sowing, and its value lies in its quick growth. With good culture, if sown early in the year it catches up the autumn-sown, and that is a great gain to many who cannot house plants and who require only limited supplies. Though I think there is a wide difference, others with more knowledge class them as the same type, but admit there are wide variations. May this not be the case with Early London and Walcheren? I would feel disposed to make another class and admit first early and second in the same way as Pea, as Chiswick, Snowball, and Dwarf Mammoth are classed with some seven others. I will now refer to Early London and Walcheren which are bracketed together. I am not quite at one with Mr. Tallack in his estimation of Early London, and I have a much earlier date of cutting than he gives. I sow early, winter in the open, and do not give frame culture. My soil is very light, and that may account for a great deal of difference. I would raise another point. What is the difference between Walcheren Broccoli and Walcheren Cauliflower? I fail to detect it, and if so, why have two? There are very distinct kinds of Walcheren, some vastly inferior. Having some years ago a very select strain, I always used it in a hot, gravelly soil for summer use from July to October, and the

growth at that season is quite distinct from that made in late autumn and winter. I fear I have digressed a little, but I did so to point out how seasons and soils affect the plants. This may be the case with Mr. Tallack's Walcheren. Is the seed the true stock, as my first heads were cut in the third week in May, and a great number were over by June 15, the date he recommends cutting? Strange to say, Pearl sown in February was on June 30. This was sown in a little heat in a frame on leaves and manure, the plants pricked off in March and planted out early in April. In the Chiswick trial Pearl is classed as mid-season, and Mr. Tallack's trial confirms that—if it is as reliable as Walcheren, which it resembles in quality. The Chiswick Pearl is of medium size, pale yellow, whereas the Pearl I have always grown is pure white. I cannot understand Walcheren being so long turning in. I sow in the middle of August, plant out the first week in October nine plants under each hand-glass, and early in March all the plants, excepting the four corner ones, are carefully lifted with a trowel, and those left turn in from the third week to the end of May. The reason I prefer Walcheren is that the heads are more compact than those of Early London. They do not turn in all at once and there is no buttoning. In the case of Early London, in our light soil I have lost three parts of the plants, whereas there are few losses with Walcheren. I also pot up a few hundreds and plunge close together in ashes. These and those transplanted form a succession to those left in the hand-glasses, and though Walcheren may be a few days later than Early London, I consider it superior in every way. I am aware my opinion is not general, and I am inclined to attribute my failure with Early London to soil and situation, not altogether to variety, as a few years ago I had a different opinion of the type in question.

G. WYTHES.

Savoy Cabbage for late winter use.—The planting of winter Greens has been so difficult owing to drought that unless prompt measures are taken to make up for lost time there may be a scarcity. For use through January and February the Savoy is most serviceable; indeed, it is of superior quality at that season, as the cold weather removes any strong flavour the heads may have. I am not an advocate for sowing or planting very early Savoys, as the early plants are often infested with caterpillars, often split badly, and are then not useable. If planted early in August and grown without a check the heads are superior in every way. The growth at this period of the year is so rapid that lost time is soon made good. To get the best results, sturdy plants sown specially for late planting are necessary, and if a late lot is wanted it is well to plant a north border with the Drumhead or De Vertus varieties, the latter excellent for the purpose and less affected by frost than the early varieties.—G. W.

Vagaries of Tomatoes.—I have seen several wide departures in the form and colour of the fruit, and during the past week I have gathered from a plant—one of several—that in its true form produces only oval-shaped, smooth fruit, two fruits that are deeply corrugated, and in shape quite opposite to what it should be. If this is not a vagary, perhaps someone will explain what it is.—J. C. C.

Sowing spring Cabbages.—With the soil in a parched condition, the raiser of plants for October planting will find a difficulty in getting the seed to germinate freely. I find a few days either too early or late make a lot of difference at this season, and have a great deal to do with bolting in the early spring. Doubtless of all kinds such proven varieties as Elman's Early Dwarf, Mein's No. 1 or Wheeler's Imperial are among the best types for present sowing. Though I do not

go so far as to assert that the sowing of any one kind should be on a certain date, I find that by making two sowings, one from July 10 to 15, the other at the end of the month, and planting out before the plants get large or drawn, there is no fear of bolting or loss of plants. Thin sowing and early planting are important, and in light soils I prefer to make the soil firm before planting, thus encouraging a firmer root hold and sturdier plants, more readily affected by frost, and early cutting the following spring. In sowing there should be no lack of moisture, and the germination will be hastened if the seed bed is covered till the plants are through the soil.—S. B.

Vitality of Tomato seed.—My people make a good deal of Tomato sauce every season, and last year the seed taken out of the fruit so dealt with found its way into a liquid manure tank as it was taken out. When it got to the tank the seed must have gravitated down among the sediment. At different times during the winter the liquid was pumped out of the tank to prevent its running to waste. Being short of water early in the summer, the liquid got so low that I had to bale it out, the same being held about the garden. The result is that, wherever this thick liquid was used, Tomato plants come up in dozens at many different places. I could understand the seed retaining its vitality in the open ground in such a winter as we had last, but that it should do so for so many months in a tank that was nearly always full of liquid is quite a new experience to me in this or any other seeds.—J. C. C.

Tomato failures.—The crops of Tomatoes both under glass and in the open air are lighter this year in many gardens wider apart than have known them for many years. The cause of this is not difficult to explain, and the explanation is want of root moisture. The great heat that prevailed for so long was such a strain upon the plants that only the most favoured growers who had both labour and water available could cope with it. The consequence is that many of the flowers failed to set, and therefore the crop so far is a light one. It has been an unfortunate season for those who had their plants in pots or boxes, as these have suffered more than those planted out in a bed of soil, as might be expected. At the same time the failures in the open ground are quite as numerous, especially in the case of those who are not thoroughly conversant with the wants of the plants in such weather as we have passed through, only the crop is a little better.—J. C. C.

TRANSPLANTING AND SOWING SPRING ONIONS.

I HAVE no doubt that the notes on the above subject by Mr. Tallack which appeared in THE GARDEN last year have proved of value to many who find it a difficult matter to secure a moderate crop of Onions owing to the persistent attacks of the Onion maggot. Mr. Tallack maintained that the best way out of the difficulty was to sow seed early in the year, say February, in boxes in a moderate warmth, prick out when large enough into other boxes, gradually harden off in frames, and finally plant in the open as soon as weather permitted. The plan was adopted by several in this neighbourhood who have a sandy, shallow soil to deal with, and the result has been most satisfactory. In one garden, especially, where spring sown Onions had failed for many years in spite of mixing soot freely with the soil at digging time, and frequent broadcast applications of it during the growing season, as fine a crop of bulbs as one could wish for was produced by transplanting. As Mr. Tallack says, the plants seem to grow away out of the reach, as it were, of the pest, and the skins become too tough and hard. If sown even in January and duly hardened, it is surprising how soon most of the Spanish types will bear exposure in open quarters; in fact, they will grow just as freely in March or April as the so-called winter or Tripoli section, which many erroneously imagine are the only ones that will stand inclement weather or

sharp frost. I myself this spring sowed Cranston's Excelior, the most reliable of all the large forms of exhibition Spanish Onion, with its fine boule-shaped neck, and although the maggot has thinned the rows of the same variety, which was sown on the same plot in the usual way, not one of the transplanted bulbs is injured. Some may think this plan incurs more labour than sowing in the open, but when we consider how large an area can be transplanted by one man in a few hours and then compare this with the time taken up in sowing and thinning, it must, I think, be seen that in the matter of labour the transplanting system is a distinct gain. Mr. Crook has shown by experiments that old Narcissus Park may be sown in autumn and safely wintered quite exposed, and I have found Trebons just as hardy here in Nottinghamshire. It would repay those who have annually to fight with this great Onion enemy to sow half their plot with Spanish varieties notable for their well-shaped necks in autumn, and to fill the remaining portion in March or April with heat-raised plants. I would still advise a free use of soot, as, independent of its being unpalatable to the Onion fly, it is undoubtedly a good fertilizer for the crop if not used in too great quantities.

J. CRAWFORD.

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A. D.

TOMATOES.

It is probably some twenty years or even longer since the Tomato Hepper's Goliath was put into commerce. It was, no doubt, a selection from Trophy, which it closely resembles. Recollecting how many scores of new varieties have been introduced since, I was rather surprised to see a houseful of the above-mentioned variety at Woodhatch, Reigate, recently, and to hear from Mr. Salter, the gardener, that it was still with him one of the best. If that be so, how little does it say for our advance in Tomato production. No doubt there is much difference of opinion. Hackwood Park was one of the earliest of the Perfection type put into commerce, and yet that remains a great favourite to-day. The fact is these and other varieties are such good croppers, producing literally all that any ordinary plant could well carry in fruit, that advance in productiveness seems to have been impossible. The chief improvement seems to have been in the production of smaller, handsomer, and much more even sized as well as useful fruits. As to flavour, with one or two moderate exceptions, or as to solidity of flesh, we seem to have gained little. Flesh becomes more solid as the summer advances, and less so as it wanes. Flavour is found most marked in two or three of the smaller-fruited varieties, whilst in the bulk it is much of a meanness, or really distinguished by its absence. At Chiswick, where a collection of some 100 assumed varieties have been well grown in this year for purposes of comparison only two had any real flavour—Sutton's Golden Nugget and a variety which received an award of merit under the name of Chiswick Dessert, having smallish red fruits. The application is perhaps not a happy one, as there is some what similar variety already in commerce under the name of Sutton's Red Dessert. Two varieties having good coloured red fruits of the Perfection type, Young's Eclipse and Nield's Seeling, both good croppers, obtained awards of merit because they carried as fine crops in far more compact and dwarf form than did any others. So satisfied did the members of the fruit and vegetable committee, who met at Chiswick on the 31st ult., seem that Tomatoes for the present at least evidenced no material advance, that they advised the suspension of trials of these fruits at Chiswick for a few years to afford time for real development if any can be furnished. What is now needed is flavour. A variety was recently shown as a product of a cross between the Tomato and the Egg plant. Of course, the possibility of any such cross is absurd, and even if accomplished could hardly have any beneficial result. We must look in other directions for flavour development. Several years since it was suggested that the Capsicum should

be tried as capable of imparting warmth and piquancy to what is otherwise a somewhat tasteless, though a refreshing fruit. The Capsicum may even if tried prove to be as broken a reed as is the Aubergine. It is remarkable that persons in all parts of the kingdom should continue to send to the meetings of the fruit committee at the Drill Hall fruits as commonplace in colour, appearance, flesh, and taste as they well can be. These people have, no doubt, sanguine ideas as to the special merits of their own selection, and indifferent ones as to what others are grown or known. Beyond Tomatoes, we find Potatoes and Peas, both annually tested at Chiswick, to show practically little or no advance of late, and it is evident that Potato trials were more of a fiction or live dream than other cultural trials than as now the testing of myriads of so-called seedlings. Raisers have introduced during the past twenty years such enormous croppers that the Potato trade is now almost ruined. If they go on longer raising they may kill it entirely.

A. D.

The Carrot grub.—The Carrot grub is very troublesome on dry, shallow soils this season. Only yesterday I received a letter from a reader saying that his earliest-sown bed, which up to May looked most promising, had now completely dwindled away. Those who have made second sowings will probably lose them also, unless precautionary measures are at once taken. As soon as the first signs of attack are visible, or even before, one bushel of soot and one of lime should be thrown into a tub containing 100 gallons of water. This should be well stirred and then allowed to stand unmolested for twelve hours. The Carrot bed should then be well soaked with the clear water by means of rose watering pots. This is really an excellent remedy and was made known to me by an old vegetable grower.—J. C.

Early Peas.—I think "W. S." (p. 84) has overlooked one or two points in my article on "Early Peas" (p. 15). If he peruses it again he will see that I did take the favourable nature of the season into account, and acted up to it in practice. How much plainer could I be when I stated that "I firmly believe it is not wise to be too stereotyped in giving advice on such operations, as seasons should be taken into account"? And the following sentence, which I need not quote further, still gives emphasis to the matter. Those writers who advised early pot-raised Peas being held over for planting until the early part of March during such a season as the past did not exhibit much show of foresight. But at the same time I did not gauge my experience with these Peas from this season alone, but over a series of years. Further, I do not see why I should not have included an early round variety or two, although these interior rounds have had no little condemnation from me in the past, which I am not at all likely to depart from. I always include one simply because it is harder, but on the score of its coming more quickly to maturity, as any variety, whatever may be its quality, which may be gathered from three or four days earlier, is a consideration in an establishment where vegetables are expected as early as it is possible to have them. My point always has been that the early Marrows are harder than is generally supposed and well adapted for early sowing. If it were not for the difference of a few days in point of earliness of the early rounds, I should not trouble at all about growing them.—A. YOUNG.

Vegetable competition at Carshalton.—The annual exhibition of the Carshalton and District Horticultural Society, held on the August Bank Holiday, is probably the only one of its kind in the kingdom at which prizes in cash are awarded according to the number of points, and not arbitrarily fixed sums. This form of prize giving, however, applies to one class only, that for nine kinds of vegetables set up in the ordinary way. The awards are made according to the number of points given to each dish, and then to the whole in each collection, the money being

later apportioned according to the number of points. Last year the best of the six collections staged obtained sixty one points and the poorest forty-six points. The best obtained in cash out of the £5 allotted 19s. 4d., the lowest 1s. 5d. This year there were seven collections staged, the best securing fifty-seven points, the lowest thirty-four points; then in allotting the money the first had 18s. 8d., and the lowest 1s. Id. Generally there was this year, owing to the drought, a falling off in quality. In several cases, Beet, Parsnips and Turnips, neither strong vegetables, yet had to be shown, whilst strong ones, like Peas, Potatoes and Cabbages, were less good than the others. The judges have simply to point the exhibits, a process that does not take long, whilst it secures perfectly accurate estimation of value. The apportioning of the cash is undertaken by the committee.—A. D.

Late Peas.—Rarely have these vegetables been grown a tumbler to have good as this year. The plants have suffered less from dryness at the roots —for in many places they have been well watered —than from the heat and dryness of the atmosphere, which has led to blindness or imperfect ripening. It seems very probable that seed will be difficult to obtain from some of the latest sorts where sown late. It is very probable that any early varieties sown late have suffered in the same way; that is at least my experience. Very frequent overhead sprinklings or syrings of tall varieties may have minimised the effects of the general dryness somewhat, but the effects of these moistenings have been very evanescent. Mildew—generally a product of excessive dryness—has also given great trouble to late Peas. Few growers, however, seem to employ for its destruction the well-known sulphate of copper and lime solution, although that is found to be very efficacious when applied, as it is for instance to Chrysanthemums. Perhaps they fear the contact of the sulphate with the pods might eventuate in poisoning; still, there seems to be no other remedy that is less innocuous. Where late sowings of Peas are yet but from 12 inches to 20 inches in height and have no evidence of bloom, and can be kept growing on by ample overhead waterings, they may be saved until September and October padding, but while the air is still rather dry the heat is much less, and reviving showers come occasionally. Where late sowings are in imperfect bloom the prospects of a good crop are poor. It is a season in which greater reliance will have to be placed on other products, especially on such as Runner Beans and young Cauliflowers. A. D.

ORCHARD AND FRUIT GARDEN.

LATE PEACHES.

LATE Peaches as a rule, at any rate in the majority of counties, do best under glass, as their growth is made at an advanced period, and except in the sunniest seasons is apt to ripen imperfectly, unless the aid of artificial heat can be given. There is now a long list of varieties belonging to this category, and although a few of them are rampant growers, and shy at bearing fruit, the majority can by judicious management be brought early into a fertile state, and some of them possess a flavour second to none of the earliest and midseason Peaches. To prevent a break in the supply between the medium season house and the first gatherings from the late one, it is well to plant Dymond and Sea Eagle, both excellent Peaches in every way, and, although vigorous growers, needing no correction by root pruning, and usually bearing the first year after planting. Dymond has size, colour, and first-class flavour to recommend it, while Sea Eagle, though pale, is yet delicate and not easily beaten for quality by any other of this section. Prince of Wales is a

grand Peach for planting in a late cool house, and is one of the most persistent croppers I know of. That good old Peach Bellegarde, or French Galande, which used to do so well on open walls in the eastern counties, should be included, its black red colour on the sunny side, and rich noyau flavour, commanding itself to everyone who likes a good Peach. It is also constant and free, Barrington cannot be beaten for colour, size, and general appearance, and is also of fair flavour, but my experience is that unless planted in a strong loam, corrected by plenty of lime rubble, the fruit are liable to drop wholesale at the stoning period. I have been as troubled with this Peach in this respect, in spite of liberal mulchings and copious supplies of water at the roots, that I would never plant it in a light porous loam again. I was recommended by a good Peach grower to try biennial root lifting, which I did, but this made no difference whatever.

One of the very best and most reliable sorts, and one that is at present comparatively little known, is the Nectarine Peach. Mr. Allan, of Gunton, has it growing on the back wall of a perfectly cool house, and thinks very highly of it. I tasted a fruit and thought it delicious. An extra large pale-coloured Peach is Goshawk, but unless in large houses and for the sake of variety this had better be left out, as despite repeated root prunings it is apt to grow grossly and bring disappointment. Golden Eagle is a very late Peach of rich milky flavour, and, although requiring more or less root pruning for the first few years, bears almost as freely as Sea Eagle, and keeps for some time when fully ripe. This is often exhibited at late autumn shows, and is very telling. Another of the same date of ripening is Gladstone, also very large, finely-coloured, and of rich noyau flavour, but this variety is also a rampant grower and by no means a sure bearer. Where room can be spared it may, however, be planted for the sake of prolonging the season. Walburton Admirable may be mentioned, but, although of huge size under high cultivation, it is often very coarse, and under average in flavour. Many gardeners prefer the ordinary Late Admirable. Desse Tardive is one of the most exquisitely flavoured of the very late section, but although I humoured it, I could not induce it to hold its fruit, all falling off between the stoning and ripening time. Like Barrington, I think it needs a strong soil. At Blückley Desse Tardive does capitally. If extreme late gatherings are desirable, room may well be found for that now almost extinct Peach Salwey. It is true its flavour is only third-rate, but it is very handsome, and makes a mark in the dessert when all other Peaches are past and gone. Points which must be observed in the culture of late Peaches are shallow borders, thin distribution of the young wood, and the application of pipe warmth during autumn.

J. CRAWFORD.

Layering Vines.—The practice of layering a portion of the stems of young Vines in the soil the first or second year after planting is now so common as it used to be. Some gardeners condemn it, believing that it encourages fungus, but I think this is more imaginary than real. One good Grapes grower used to cut his young Vines back to within an inch of the soil, allow them to start, and when they had grown a foot and new roots were forming, plant in the new border, burying the inch of old wood in the soil. A tuft of young roots soon started from the junction of the new and old wood, which he considered assisted in producing a fine strong cane the first season, and their condition in the autumn certainly justified his idea. I was under Mr. Macfarlane at Hutton when the large vineries

there were planted, and I remember that layering was practised the second year. The young Vines previous to being started were bent down, and some 2 feet or 3 feet of the base of the stems embedded in the soil, being secured by means of stone wooden pegs, they were laid in about 6 inches deep and, I believe, notched here and there at the joints so as roots issued from the buried stems as soon as the Vines got into active growth, and extra strong canes were produced that year, nor has fungus ever troubled the Hutton Vines, so far as I am aware.—J. C.

Planting Strawberries.—No time should be lost in getting next season's fruiting plants into their permanent quarters, and the earlier these are started the better will be the crop for next season's fruiting. It is a loss of time to allow the first or earliest runners to go astray; indeed, far better grow a few plants for ranner production alone. With such a protracted drought, old worn-out stools will have a difficulty in tiding over a severe winter. In case the runners are not large enough for immediate permanent planting, place them in rows in rich soil, 1 foot between the rows, 6 inches between the plants, in firmly trodden soil. These small plants will lift grandly early in March or even earlier if the winter is mild. Such plants as the Queen or Pine family, Waterloo, or other slow growers do grandly treated thus, and are much less trouble than patching up old quarters.—S. H. B.

Apple Mr. Gladstone.—The extreme earliness of this Apple is unquestionable. I have today (July 13) gathered it from a tree on a wall. I cannot, however, say much in its favour as a cropper either in that position or as an espalier. I am inclined to think that bush form would suit it better, as it seems to be one of those sorts which fruit on the ends of the shoots, and, therefore, resent spurring back. In regard to its quality the less said the better; further than that it is refreshing on a hot day if gathered from the tree and eaten at once. Keep it well not even for a few days when quite ripe, mealiness setting in in twenty-four hours. Perhaps on a stronger soil it might be better. The small white Junebearing will be ripe in ten days, and as grows here is really better than Gladstone.—J. C.

EARLY FORCING STRAWBERRIES.

ALTHOUGH early layering—with early potting and consequently early maturity of the crowns—is not so very important in the case of Strawberry plants which have not to be introduced into heat till the end of January or beginning of February, it will, I think, be conceded that the above conditions are imperative with plants intended for extra early forcing—*i.e.*, to be placed in heat, say at the end of November or beginning of December. One old gardener I knew, who forced Strawberries early—his first batch being expected to ripen in February—was never satisfied unless in September the pots were tolerably well filled with roots and the crowns prominent and well-brown. Keens' Seedling was the best Strawberry for forcing in those days, except in point of earliness perhaps, in which case Black Prince had the preference, a few of this variety being grown in $\frac{1}{2}$ -inch pots for an extra early picking. This plan of potting a certain number of early varieties in small pots is a very good one, as by a little extra attention the balls can be kept moist in autumn, and doing their work at a comparatively dull, uneventful period of the year, root dryness need not affect them when on short-headed glass. One good point about Keens' Seedling is that it frequently develops but one crown in pot, and the varieties of the same habit of growth are certainly to be preferred for early forcing. La Grosse Sucrée also produces few crowns, and when two or more appear it is an easy matter to cut them out in their infancy. The worst of Vicomtesse d'Harcourt de Thury is that it produces its crowns in clusters of four, five or more, and that the bloom trusses are, in consequence, borne on short stems, which often scarcely overlap the rim of

the pot. This certain setting, forcing Strawberry should be treated in the manner above described, a couple of crowns only being left. Royal Sovereign will be found most useful for small pots, its crowns being few and prominent, and it therefore easily ripens. For these purposes extra early forcers, a few plants for propagators only are necessary, as they require to be layered early in July and to be shifted into their framing pots by the second week in July. A sunny position also is needed, free from any shade whatever. The successful old forced referred to used to give them a plot which had been cleared of early Cauliflowers, facing due south, giving the surface a good sprinkling with lime and removing the larger stones with a rake, liquid manure in a weak state being given daily as soon as roots became numerous. This extra labour is well repaid where very early Strawberries are a feature, as we all know the disappointment which often attends late-potted plants in large pots, it being sometimes a difficult matter to secure a respectable dish from a long row of plants. If these early plants can be plunged in a gentle bottom-heat of leaves until the bloom trusses throw up so much the better.

J. CRAWFORD.

VINE ON HOUSE IN SURREY.

ALTHOUGH Earlswood is the home for many thousands of Chrysanthemums, there is something else which seems at home there—viz., a Vine of White Frontignac Grape. This Vine was planted thirteen years ago (just a rooted cutting) in a bed of clay which had been dug out of the stake-holes to fill up the ground in front of shop, and asphalteed over seven years previous to the planting. The Vine is so thin that the Vine was planted a hole about 1 foot square and deep dug out and filled up with some good mould. Nothing was expected from this Vine but for shade over the shop window but three years ago about 4 bushels of Grapes ripened beautifully. The greater part of these found their way amongst some water and sugar and into a tub. The Vine has been allowed to extend as much as possible since then, and each year has ripened a fair crop of Grapes, but this year it is the admiration of everyone who passes by; in fact, many come on purpose to see it. It is simply loaded with bunches, the best of which I have thinned. Many of the bunches will weigh very close upon a pound by the time they are ripe if they go on as they are going, for they have not yet commenced stoning, and the berries are as large as one seen Black Hamburg in a viney at the same stage of growth. I enclose a small bunch for your inspection. It is almost impossible to count the bunches, they are so thick, but I should think there must be over 2000, and when full grown there will be ten or twelve bushels. They have never been so early as this year and not such large bunches, and the berries on those which I thinned are as large now as they have hitherto been when ripe, so I am looking forward to a large tubful of one of the best summer or winter drinks one can possibly have—that is one who likes home-made wine.

Returning to the Vine, it is a mystery to me where it gets its nourishment, for, besides the crop, it has already (August 10) made shoots 10 feet long, and not a drop of water has been given to it, for it is in the centre of a piece of asphaltate 20 feet square, and it is impossible to give it water anywhere in that space, and a main road runs two sides of the house. It may have crossed the road and got amongst the Chrysanthemums (a distance of 20 or 30 yards); if so, that accounts for the extraordinary crop and growth; or one of its toes may have kicked against the sewer in the road, but in either of these cases they would have "a hard road to travel," and in the latter case to travel deep.

W. WELLS.

* An excellent photograph, showing the good effect of the Vine, is sent by Mr. Wells, who also forwards a specimen bunch of very clean white Grapes.—ED.

FLOWER GARDEN.

THALICTRUM AQUILEGIFOLIUM.

This handsome plant is well worthy of a place in the herbaceous border or wild garden. In rich, deep soil it will often attain a height of 5 feet, and when the tall flower-heads expand their somewhat insignificant blossoms into a cloud of yellowish white inflorescence, the effect produced is extremely striking, the finely-formed leafage and purple stems contrasting pleasingly with the feathery lightness of the innumerable blooms. Associated with the

rockery. *T. adiantifolium* is valuable solely on account of its foliage, which bears a striking resemblance to the fronds of the Maiden-hair Fern, from which it derives its name. The elegance of the delicately cut leafage gives the plant a graceful appearance, and its fronds, as they may almost be called, are most decorative when arranged artistically with cut flowers.

S. W. F.

Iris hexagona La Mance.—Another season's growth of this Arkansas variety confirms, says *Garden and Forest*, the first impression as to its being a handsome form. Among the many Irises

is quite distinct, has proved to be a good garden plant and perfectly hardy. It is of prostrate habit, sending up in summer numerous spikes of the brightest golden yellow flowers, which remind one of the blossoms of *Lotus corniculatus*, except that they are much larger. *C. cappadocica* is a native of Asia Minor, and is another of the many fine garden plants for which we are indebted to the energy and perseverance of Mr. Whittall. Plants grown here produce seeds freely and afford ready means of propagation. As with all leguminous plants, it is best to start the seed where the plants are to remain permanently, as it sometimes takes years for the plants to recover from the check caused by removal.—E. O. O., *South Lancaster, Mass.*, in *Garden and Forest*.

BORDER CARNATIONS—OLD AND NEW.

AFTER the mild season we enjoyed last winter these charming flowers are now unusually fine in seaside gardens where the soil is sufficiently retentive of moisture, or where they have been occasionally watered during the severe heat and drought now past. In consequence, it is, I think, especially important to go over our plants, marking the freest and handsomest kinds for immediate layering and propagation, because any variety that is not really satisfactory this year should be passed over, as it cannot reasonably be expected to be better in future years; and so we should concentrate our energies on the most satisfactory plants.

Many, I hope, will agree with me when I say that the old Clove is the model of excellence for a border Carnation, for what I mean by a border Carnation is one that will live in an ordinary border and persist for several years, producing annually a fine crop of flowers till it dies of old age. Carnations that need annual planting and layering may be, and often are, most beautiful things, but they are not true hardy border plants that will take care of themselves in an ordinary way. This is what is such an endless source of distress to anxious amateurs who buy probably some lovely, but delicate Picotee, and expect it to grow on and flower again when once planted; and I constantly hear the complaint, "I cannot grow Carnations," from people who have admired such and such a flower when shown no doubt by a specialist. It is, for instance, a little disheartening to hear of those splendid seedling varieties raised by the president of the Carnation Society being grown by the hundred under glass to protect them from insect injuries, for one would hope that some at least of them are hardy enough to take care of themselves out-of-doors, as we shall presently see. Seedlings are, of course, the most obvious means of stocking a mixed border with bloom, but I do not want to talk of them to-day, as they cannot all be good, while masses of old and hardy varieties can be relied on for quality and colour wherever the Carnation grows happily—that is to say, in two-thirds at least of English gardens. Given the old Clove in its several varieties, especially the crimson and the blushing-pink, there comes next the "everlasting" Baby Pink, which is even harder and more abundant in bloom. But of whites, how few there are really handsome and really hardy. The common white single-flowered Clove is so poor, the large and fragrant Glorie de Nancy how tender and how soon spoilt by wet! There are any number of beautiful white Carnations, i—deed, but of sturdy, hardy border varieties, how few. A real treasure for the border has, I think, however, turned up in Mr. Martin Smith's Ellen Terry, a white of the purest and largest size, vigorous and hardy beyond any but those mentioned. Plants that stood out the winter of 1894-95, and again last winter, are now quite as vigorous



Thalictrum aquilegifolium. From a photograph sent by Mr. S. W. Fitzherbert, Lanscombe House, Torquay.

strong-growing *Lilium croceum*, which will throw its many-flowered bloom-spires full 6 feet high, this *Thalictrum* is seen at its best, the deep orange of the Lily blooms setting off to advantage the parchment-white of the Meadow Rue's blossoms. There are varieties of thin *Thalictrum* with flowers of a pink or purple hue which lack the ornamental qualities of the type here represented.

Other beautiful Thalictroids are *T. anemonoides*, the Rue Anemone, and *T. adiantifolium*, or Fern Rue. The former produces its delicate white chalice, much resembling those of the wild Wood Sorrel (*Oxalis*), above its daintily-cut dwarf foliage in the spring, and is a gem that is seen at its best in the setting of a

it would be difficult to name the most beautiful and pleasing, but this has claims to be numbered among the choicest of a generally handsome family. There are others of more delicate and quaint hues, but the colour of this is as nearly blue as is found in flowers. The flowers are wide-spreading, with flat segments, and three or four are borne on short pedicels on one side of a leafy prostrate stem. It is perfectly hardy and has long, thick, creeping rhizomes. The white-flowered form of *Iris hexagona*, discovered in Florida by Mr. Mead, does not prove to be hardy here.

Coronilla cappadocica.—This genus contains few species that are regarded as hardy. *Coronilla varia* is, perhaps, the best known, and is a desirable species, and *C. cappadocica*, which

as young plants, and as full of flower and grass. There must be quite a hundred or more flowers and buds (great and small) on one plant, and the quality is improved by its age—a strong point in its favour. This will, I think, be a standard white border Carnation in the future, its only drawback being the feebleness of its scents. I have been much disappointed to find that Uriah Pike, so grand under glass, is not to be depended on outside. This year after the mild winter it is good, but the previous winter froze its pith, and the plants generally succumbed just as they were trying to flower. I hear the beauty, but nearly scentless Mephisto is quite hardy, but as I have only had it out during last winter I dare not pronounce positively; at any rate, it is one to propagate and try thoroughly. Of yellows it seems almost hopeless to find a good hardy border variety, but I can say that Duke of Orleans (also one of Mr. M. Smith's seedlings) has passed unscathed two winters and is now blooming profusely, there being ten flowers out at one time on one single stem and of fair quality; while Germania has never survived two winters and then been healthy enough to produce good flowers. Carnations no doubt behave very differently in the north from what they do in southern gardens, and while I have often seen the orange Mrs. Reynolds-Hole straggling vigorously in southern gardens, it has never been kindly with me, and I hate Pasha with much pleasure as a harder and better flower of the same type, which is flowering again freely on two-year-old plants. The Hunter, another orange variety, is also a vigorous and free-flowering variety that has stood three years out of doors, and is still good. Its colour is peculiarly vivid and clear, but its grass is very long and thin and needs staking. Good scarlets are easily raised from seed, but I must say that Hayes' Scarlet, with which I was much disappointed in its first year, has retrieved its character in my eyes, for a four-year-old clump that had been luckily planted on the top of a bank has produced masses of brilliant blooms perfect in shape and gorgeous in colour, as the guard petals protect the inner ones from the hot sun when the flower-stems hang down. Kettone Rose is a well-known and good variety that certainly deserves a place in every Carnation grower's border. Contesse de Paris I have grown and admired for years, but it all died in that severe winter of 1894-95, so it cannot, quite be considered "proof." A new variety somewhat similar, called Waterwitch, has much disappointed me; its petals are so dimly, that one heavy shower of rain entirely ruins both flowers and opening buds—quite a fatal objection in my eyes. I have left nearly to the last in the list of self border Carnations what is perhaps the loveliest, freest, and hardest of them all. Its excellence may be gathered from the fact that it has no less than three names, and yet it is beautiful under them all. Burn Pink, Maggie Laurie, or Duchess of Fife is far the prettiest blush-pink border Carnation I know, and, if not quite as persistent a plant as the old Ruby, it is still quite to be depended on as a hardy border Carnation. In moist northern gardens a fine rose self border Carnation called Beauty of Boston is very hardy and good, but in the south I have never seen it in beauty, so that this is purely a northern kind. Of fancies it is very difficult to give any names. For my part I rarely admire them, and am content to grow chance seedlings that please me, and have never gone in for named varieties in this line. When we come to the florists' Carnations, flakes, bizarres, and Picotees, I have found only three

of those I have cared to grow really reliable as border plants. These three are the beautiful rose flake Lady Mary Currie, a model of hardness and excellence; then comes J. B. Bryant, a Picotee with a deep red eye, and Liddington's Favourite, with a thin rose edge, which have all graced the borders here for many years, and take care of themselves in an ordinary way. It would be a satisfaction to hear what are the true border Carnations grown in other gardens that are as persistent as these I can mention. When a really hardy and lasting scarlet variety equaling Ellen Terry in size and beauty is raised, may I still be alive to possess it. King Arthur, so splendid in colour, size, and habit, is of no value as a second year's plant, and so not to be included in border Carnations.

EDWARD H. WOODALL.

PRIMULA SIEBOLDI VARIETIES.

"R. D." on page 66 appears to regard heavy rains or much moisture as detrimental to the well-being of these charming plants, and suggests "a cold frame" as an "advantage" in keeping them free from such. This is, however, so contrary to my experience, that I think it may be well to give another view of their behaviour without the coddling in a cold frame, for I have never known these plants to suffer from full exposure to all the rainfall, but rather the reverse; indeed, at the outset it would be opposed to the generally accepted notion of the genus as a whole if it were found that moisture was an objectionable item in their culture. It may interest "R. D." to know that up to twenty years ago, when he had charge of the herbarium department of the Messrs. Rollinson at Tooting, I grew the varieties grandiflora, lilacina, intermedia and alba (that very purest of white kinds, with very large pipes of somewhat drooping flowers), also one called hybrida, all of them plunged in pots in the open all the year round winter and summer. Each year these things always started most vigorously into growth, and, instead of losing any, the plants invariably admitted of being increased two or three-fold each year—proof, I take, that they were in no wise injured, or even inconvenienced, by their surroundings. The plants were potted for sale purposes generally in 4-inch pots, and the rhizomes spread quite freely over the soil, especially luxuriating in the moisture of the plumping material. Each spring, after flowering, the plants were potted and replunged in a mixture of soil and ashes between thin hedgerows of Arbor-vite, where they received daily attention in watering. With the decay of the leafage, an inch, or rather more perhaps, of spent hops from a neighbouring brewery was placed over all, and in this way they remained till repeated in the following spring. No protection of any kind was given them, and in this moisture-holding material the plants grew quite vigorously and increased rapidly. In the specimen beds no such covering was given or needed, as the rhizomes spread freely on the surface and were perfectly healthy. Coming to more recent times and with increased numbers of kinds, I may say I have frequently recommended the growing of these things in the drier parts of the bog garden, and I did not attempt to recommend their use in this particular position without experience of their suitability. Indeed, some of the most vigorous patches of these plants that I have seen formed a long broad line some dozen or more years ago in the Botanic Gardens, Birmingham, where in the moistest part of the garden and in a position rather low Mr. Latham had them growing in the greatest luxuriance. Plants of this group have occupied the same border, and, moreover, in a rather heavy and at first sight one may think un-congenial soil, for years, and their exceptional vigour is the best possible proof of their being contented with their lot. Here in Middlesex some years ago I specially sunk a bed nearly a foot below the surface that these very plants might

receive the rainfall, and in this spot the plants, originally small pieces put out in lines, quickly formed a dense and several feet high mass of flower the mass of bright red flowers near a group of Trilliums was exceedingly good and effective. I have nothing to say against pot-grown plants of these things where this is done to forward them under glass and thereby extend the season of flowering. It is, however, a totally different matter to suppose that pots and cold frames are a necessity in their cultivation, because the plants are never grown to the same perfection by these means, and to urge their use is in a large number of instances to prevent many ever attempting their culture at all. But grown in a spot continually cool and moist, and if shaded the better, these plants are among the brightest and most pleasing of early spring flowers.

E. JENKINS.

DRY WEATHER CARNATIONS.

THIS has been a most trying season for border Carnations on light shallow soils, and those who went to the trouble of mulching round the plants fairly early in the year will have reaped the benefit. I never remember a season when thrips were so troublesome, and there seems to be no way of checking them. Many of the self-coloured varieties presented the queer freckled appearance by the disease of the flowers, and were away by these pests. Lying somewhat high, and having a rather light soil with abundant drainage, from which moisture quickly drains, Carnations which do well in a dry season are especially valuable to me. I do not think a better pink variety for free growth and floriferousness can be named than Celia. The flowers, which are borne on very stout stems and in great quantities, are of a bright, but pleasing hue, and are very delicately scented. Celia may truly be termed a perpetual bloomer, as it will continue to flower, and that freely, right into October, and a stronger grower I do not know. Another pink variety thriving well in a dry season and producing flowers in abundance is The Burn. The flowers are much paler than Celia, reminding one of Miss Jolliffe; it seldom bursts and lasts a long time in a cut state. Pride of the Garden possesses a good constitution and bears freely large flowers of great substance, the colour being a fine deep rose. As a golden yellow Carnation I can speak highly of Corinna. In our light soil this season it has flowered freely and has made a capital lot of grass for another year. Miss Ellen Terry stands out prominently as one of the very best and largest white border Carnations. The blooms remind one of the old Malmaison in size and texture. This variety has made a good show this summer without any mulching or artificial watering. The Pasha, a fine fringed variety, colour a pale pink, is a reliable grower, and, despite its usefulness for bouquets and battonholes is quite indispensable, even in the most limited collection. Uriah Pike, although classed as a tree Carnation, has made a brave show here on a hot sunny border. This will certainly replace the old Clove in gardens where the latter dies off.

J. C.

Violas or Tufted Pansies.—I can heartily endorse what Mr. D. T. Fish says of these beautiful flowers, for we southern and eastern growers cannot hope to compete with growers north of the Tweed with a flower that needs moisture and shade. The editorial note (see p. 76) is also correct, for here on one of the sunniest spots in South Hants the Violas have lived through the long drought, but it would be a stretch of imagination to say that anyone could have found any about here in satisfactory bloom during June or July, and finding the coolest and moistest positions would have been a problem I should like to have seen solved anywhere hereabouts, as, no matter what the aspect, there was no moisture whatever. Of this I am positive, for in the last week in July we started to sink a well close by where our Violas and other flowers all languishing for water were growing, and the soil at 3 feet deep had not a vestige of moisture in it any more

than the surface, and if tossed up in the air flew away like the dust off the road, and it was not until we had penetrated some feet into the gravel that any perceptible moisture could be found. It is this moisture rising from below that we have to thank for keeping trees and other deep-rooting things alive, for the drought has been a long steady drying up of all the moisture that was available, accompanied by a dry, cool atmosphere that robbed the soil nearly as much of its moisture by night as by day, and there was very little dew to refresh the flagging and withered vegetation. Those who grew Violets in this part thought themselves fortunate if they kept them alive until rain did fall, and I may add that although the rain we have had has not penetrated more than 3 inches deep, it has done more to start the Violets into bloom again than all the water we could put on them from the water-pot.—JAMES GROOM, Gosport.

Enothera speciosa.—In the notes on this beautiful species nothing is said of its delicate odour. It is a favourite of mine and I always grow it in pots for the sake of its pleasant perfume.—J. M., Charmouth, Dorset.

IRIS PALLIDA.

Or all the Flag Irises, there is none finer, when seen at its best, than Iris pallida. It is a native of South-eastern Europe, and is easily grown in any ordinary border. It has large glaucous foliage and stout flower-spikes about 4 feet high, each producing six or seven large flowers of a light lavender-blue. The buds are peculiar, being short and thick and carefully wrapped up, apparently in tissue paper. There are several varieties, one of the best and richest coloured being known as dalmatica—the one photographed. There is also, I believe, a rose-coloured form, but I have not seen it. The clump figured herewith contained about twenty spikes, and when in blossom was a floral picture hard to beat. A coloured plate of this Iris appeared in THE GARDEN for January 14, 1888.

T. P.

GLADIOLUS CULTURE.

On seeing a fine lot of spikes of this showy flower in a florist's window recently it struck me as somewhat strange that its culture should not be more general. Most of the old gardeners gave a portion of a sunny border to Gladioli, a good batch of the old brenchleyensis being included. These were grown in rows, a stout stake being driven in at each end, and cross sticks taken from one to the other for tying the stems to, the plants being shaded with canvas in hot weather. Many complain that the new hybrids do not last more than a year or two and then gradually dwindle away, but for a mere nominal cost a fresh stock of bulbs may be obtained from the growers, and the new named varieties are all very handsome. It is useless attempting to produce good spikes by planting the bulbs in unprepared soil and subjecting the plants to rough-and-ready treatment. They require a nice open loamy compost, with a free addition of leaf mould and coarse sand, and if a little sand is placed round each bulb at planting time, roots will be more quickly and freely emitted. I have known gardeners residing in cold districts to start the bulbs in small pots and plant out when growth was 6 inches high. This is a good plan in gardens infested with slugs, as frequently these pests play hide and seek with the tender shoots when just through the ground. Their attacks may be prevented by placing small pots over them at eventide, removing them the following morning. The end of April is a good time for planting the bulbs, and if in beds the best way of doing this is in drills 3 inches or 4 inches in depth, pressing the soil gently around the bulbs with the hand. Gladioli will do well planted singly in sunny pleasure-ground and shrubby borders, but in this case a portion of the old soil should be taken out and a little prepared

compost put in. For a display in such positions, nothing surpasses the brilliant old brenchleyensis. The vigour of the plants and strength and colour of the bloom-spikes are much increased by applications of liquid manure to the roots several times during the season; a good mulch of shorn manure is also beneficial. The plants must be secured to moist sticks at an early date, as even before the spikes appear high winds often break them down. At the beginning of November the bulbs must be lifted, dried, and stored away in a cool, place free from frost, the small offsets being saved for planting by themselves for flowering the third year.

J. CRAWFORD.

FRUIT AND VEGETABLE CROPS.

SOUTHERN.

Knebworth Gardens, Herts.—The outlook of the more important of the hardy fruits in this district is not now so rosy and promising as the abundant, strong, and perfect blossom on the trees and bushes led us to expect. Two or three frosty nights, but more especially the long-con-



Iris pallida. From a photograph sent by Mr. Greenwood Pim, Dublin.

tinued biting east winds which prevailed during the blossoming period of both Apples and Pears, only too surely wrought and left behind traces of injury to most orchards and gardens, save in some few instances where friendly protection was afforded against the blighting winds by belts of trees and other agencies. Apples will be below average. Falling of much of the fruit is general. Some people think that it is attributable to the prevalence of the dry weather, but I think it is due to the imperfect set, common on the cold weather at the flowering stage. The cutting open of several of the fallen fruits reveals imperfect fertilisation by the absence of the non-swelling and shrivelled-up appearance of the pipe; these defects clearly point to that fact. The crop on standard Pears will be below the average. The same may be said of Plums. On walls Pears are better, so also are stone fruits. Apricots, Peaches, Plums, and Cherries are a good average crop, and where the trees are receiving timely supplies of water, the fruit is

swelling to a goodly size and will be of excellent quality. All bush fruits are abundant and good. Strawberries have been heavy crops and of excellent quality where early attention was given to the watering of the plantations. Where this could not be done and on the lighter soils the season of gathering has been a short one and the fruit much smaller and poorer. This is usually the case after spells of chilling and blighting east winds; insect pests have been rampant in almost all fruiting and flowering plants, and a continual waging of war has had to be kept up against them to secure fruit and flowers alike in anything like a presentable condition.

Most vegetable crops have had a most trying time, account of the long-continued dry weather. The constant use of the watering pot has had to be resorted to in order to keep up the supplies of nearly all kinds of vegetables, and these in most instances have been, and are, of but poor quality. On the dry gravelly soils, where there is a scarcity of water, a great number of the crops have been wholesale failures. Peas have filled badly and given only half returns. Early and second early crops of Potatoes have ripened off prematurely, the tubers being small generally and only about one-third the weight of produce there ought to be. Late crops in the fields are showing signs of distress, the tubers as yet being small, with skins partly set, and should rain come now, of which there are signs, to start them into fresh growth, super-tubering is sure to follow and the quality of the crops reduced thereby.—J. KIPLING.

Wrortham Park, Barnet.—Apples about an average crop, some varieties, viz., King of the Pippins, Cox's Orange Pippin, Lord Grosvenor, Lord Suffield, Cellini, Striped Beaujol, Juneteau, Lane's Prince Albert, and Stirling Castle being about the best this season. There was an abundance of bloom, but a quantity either set imperfectly or not at all. Peaches average, but the quality appears to be good, and the fruit clear and free from blemish. Pears over average and of good quality on the walls; not so much fruit on the bush or standard trees, the birds having destroyed most of the buds this last spring. Peaches over average crop and very good so far, but owing to the drought and consequent shortness of water here, spider has attacked some of the trees, which will doubtless affect the quality of the fruit on them. Figs under average. The trees here have not recovered from the effects of the severe winter of 1894-95. The growth made was very late in 1895; then we had a sharp frost early in the autumn of that year which killed all the points of the growths, from which the trees are only recovering this summer. Strawberries average crop, quality good generally, but the earlier fruit was very good indeed both in size and quality, the hot, dry weather spoiling the later fruits in many cases. Black Currants average crop, good quality, but the fruits smaller than usual. Red Currants under average as regards quantity, but the quality good. Gooseberries over average, an abundant crop, perhaps rather smaller than usual. Raspberries under average and had, owing to the drought here. In some places near where there has been more rain, or where the soil is more retentive of moisture, the crop has been pretty good. Cherries under average, but very good in quality. Morellos over average; in fact, abundant, very good, and early. Nuts average crop. Walnuts about an average crop here, rather under in some other places.

Most vegetables about here are not up to the usual standard owing to the hot and dry weather. Potatoes are good both in number at a root and quality, but small. Peas are getting scarce and the later sowings doing badly, as also Spinach. Turnips are not setting well. Turnips scarce,

also Cauliflowers. Winter stuff not growing much and looking very blue. This only applies to where water is scarce. In places where there is plenty of water or where the ground is not so gravelly the crops look, and are, better. Potatoes especially being very good. The deeper-rooting vegetables, Parsnips, Beet, &c., are doing very well generally.

—GEO. KINGHAM.

Dromore.—The fruit crops in this district are rather under the average, although of some kinds unusually heavy ones can be reported. Coming under this last head are outdoor Peaches and Nectarines, both of which have required severe thinning. The trees, too, have kept wonderfully clear considering the extreme drought, and also have made satisfactory growth. Early Peaches, as Waterloo and Alexander, are nearly over; fruits of these were gathered from the open wall the first week in July. Apricots are a partial crop, probably owing to rough stormy weather when in bloom early in March. Plums both on walls and standard trees are carrying heavy crops; some are dropping owing to extreme drought, and a week's rain now would be most welcome. Apples are a good average crop and the trees looking well, considering the trying season already experienced, and with a good rain now will be fully developed. Blenheim Orange, Sturmer Pippin, Dame Musgrave, Devonshire Quarrendon among orchard trees are heavily laden, and among bush trees Lord Grosvenor, Grenadier, Lord Derby, Lane's Prince Albert, Ecklinville Seedling, Cox's Orange Pippin, Cox's Pomona, Bismarck, and Pott's Seedling have required considerable thinning. Pears on walls, excepting the variety Williams Bon Chrétien, are thin, while bush trees are a partial crop. Some of the best are Williams' Bon Chrétien, Mme Treve, Deyenne du Comice, Fondante d'Automne, Josephine de Malines, Louise Bonne of Jersey, Souvenir du Congrès, Beurré d'Anjou, and Beurré Diel. Cherries on walls have been good, while orchard trees generally in this neighbourhood have been thinly cropped. Notwithstanding the drought, Strawberries have been abundant and good, though over perhaps rather earlier than usual. Gooseberries have been a heavy crop and good, but Currants, both Black and Red, this under average. Raspberries poor, owing to continued drought. Nuts are very plentiful.

Among vegetables, Potatoes, although rather smaller than usual, are of excellent quality, and no disease yet seen. Vegetables have suffered much from the continued drought, especially where not well supplied with water. Peas especially suffer in this respect. Of dwarf early Peas, Chelsea Gem and Sutton's Seedling did remarkably well, and rather taller were May Queen and Ringleader, equally early. Duke of Albany still holds its own with me, as I consider it about the best second early Pea. Sutton's Eureka is a capital dwarf variety. Autocrat, Ne Plus Ultra, Goldfiner, Sutton's Late Queen are excellent late kinds that invariably give satisfaction.—CHAS. HERRIN.

Goodwood, Chichester.—Considering the long drought which we have experienced this summer, it is surprising that many of the crops have done so well, but frequent waterings and mulchings have been resorted to with good results, especially so in regard to Peas and Strawberries. Where the ground was not previously prepared by deep cultivation and heavy manuring, together with a scarcity of water, the present must have been a trying season. Most fruit trees suffered early in the season from blight, &c., and the foliage of Peaches and Nectarines was badly blistered, but these are now making clean growth and carrying good crops. Apricots are a full crop this season, and I have noticed so far there has been less dying off of branches. Plums are a heavy crop both on walls and in the open, so also are Cherries. Apples on aged trees are below the average, but it has been necessary to thin the fruit on recently planted trees. Pears on walls are carrying good average crops, but not so on standards. The Strawberry season was somewhat shortened by the dry weather and the fruit small,

but this was of good quality, and none were spoilt by slugs, &c., which is generally the case in wet seasons. Sir Chas. Napier appears to withstand the drought well here, and I gathered from these quite ten days after other varieties were over. Runners of this are scarce, but I intend planting this freely next month, as it seems suitable for the situation and climate. Small fruits of all descriptions are plentiful. Fig trees suffered somewhat from the sharp frosts of February, 1895, but the trees are now recovering, and I notice some very fine fruit of Brunswick and Brown Turkey; but the crops generally are light this season. Nuts of all sorts are plentiful, so are Mulberries and Medlars.—R. PARKER.

Nuneaton Park, Abingdon.—The crops of fruit in these gardens this season are generally satisfactory. Apples are much above the average, young standards of some of the leading sorts that were planted about seven years ago being heavily laden, and older trees that usually fail to produce more than a moderate crop are this year carrying exceptionally heavy ones. On bushes, too, the yield is plentiful. Pears, for the most part on walls, are bearing exceedingly well, and as a consequence we cannot expect the fine fruit of some of the sorts that is looked for when they are less abundant, but the bulk promises to be much larger than usual. Strawberries suffered much from the effects of frost when in bloom, consequently the crop was lighter than usual, but some of the fruit was exceptionally fine and the quality as good as could be desired. Apricots are fine and the crop is an average one. Plums of all kinds are abundant, Green Gages carrying very heavy crops. Cherries of the sweet varieties were bad and very much blighted, but Morellos are abundant and good. Black Currants and Gooseberries are also in a fair crop, and there is no reason to complain of there being any under-sized fruit. The crop of Red Currants and Raspberry is light, with the exception of a young plantation of Raspberry Superlativa, which is bearing heavily. Of Peaches and Nectarines we grow none outside, but of Walnuts and Filberts there is an abundance.

Early Potatoes have been good, both as regards quantity and quality, but later varieties are sadly in need of the long wanted rain, or I fear the yield will be light. At present I see no trace of disease. Roots, where sown early and a good plant obtained, are looking well, as are also Onions, especially those sown in boxes and afterwards replanted out or kept well supplied with water, a plan to be highly recommended, especially where the maggot is at all troublesome, although this year I have seen no signs of it amongst them. All the Brassica tribe have suffered terribly from the maggot.—A. G. NICHOLS.

Fulham Palace, S.W.—Apples average crop, but of good size, also of good quality. The maggot is very plentiful this year. Pears, Plums, and Peaches average crop. Bush fruits average crop and of good quality. Strawberries above the average and of excellent quality.

Tomatoes setting well and doing remarkably well. Potatoes are looking well considering the very dry weather, but it is rather too early to give a good report. Vegetable crops have to be watered daily, and this I have found the only way to keep up a good supply. Those not watered are looking very bad, leaves now turning yellow. Peas and Beans were sown in trenches, with 3 inches of rotten manure at the bottom, and not filled up to within 4 inches of the ground level, and so held the water well, and consequently have had almost daily pickings since May 29.

Wycombe Abbey.—In this district Apples, Pears, and Plums will be less than an average crop. Both Apple and Pear trees have suffered severely from Fly and the red spider, which has caused much mischief already and will deteriorate the fruit very much indeed. Peaches, Nectarines, and Apricots are a fair average crop. Cherries, excepting Morellos, are considerably less than an average crop. Strawberries were very plentiful,

but, owing to the want of rain, were not large, and the season soon terminated. Small fruits, excepting Raspberries, were good, and Walnuts and common Nuts are abundant.

Owing to the dryness of the season, Pea crops have not attained the state of perfection they usually do; a report would therefore not fully represent the true character of their merits this year. Potato crops look extremely well. The early crop now being lifted is rather a short one. Later kinds promise by their appearance to give a better return. No disease is apparent at the present time either on the haulm or tubers.—GEORGE T. MILES.

Park Place, Henley-on-Thames.—Apples a good crop and the trees are healthy. Pears, especially on walls, are very even and good. Plums and Cherries abundant. Peaches and Nectarines good. The trees blastered a good deal in spring. Strawberries quickly dried out. The younger beds were fairly good. Anything over three years' standing was of no use. Small fruits of all kinds, including Nuts and Walnuts, are abundant and the trees healthy. It is a good average fruit year.—GEORGE STANTON.

Woodbatch Lodge, Reigate.—Apples are under average. Some varieties—Warner's King, Stone's, Land's Prince Albert, Oldenland, Ecklinville, Lord Grovesnor, Tower of Glamis, Cox's Orange and Brownlee's Russet, are cropping well. Pears under average. Plums under average. Cherries average, Superlative being especially good. Gooseberries under average. Currants average. Strawberries under and crop soon over, Royal Sovereign being best with us.

Potatoes are looking well and are free from disease.—J. SALTE.

Highbury Gardens, Newbury.—Fruit crop on the whole, fairly good, though in some respects disappointing. Apples very good, over average in crop and clean. Pears a fair average, very good. Plums few and poor. Apricots, Peaches and Nectarines good. Strawberries very plentiful and good, but soon over. Raspberries also good. Gooseberries and Red Currants short in quantity, though very good. Cherries, especially Morellos, a very good crop. Nuts about average.

Vegetables, in spite of the drought, are looking fairly well. Peas and Beans having been exceptionally good. Brassicas of sorts are suffering somewhat, grubs having been more than usually troublesome this season. Root crops are promising well where sown fairly early, but those sown late are more or less a failure. Early Potatoes are good, rather smaller than usual, but quality excellent, rain being badly needed for late crops.—W.H. POPE.

Benham Gardens, Newbury, Berks.—Although not visited by any severe late frosts, the long-continued spell of drought, accompanied by harsh winds, brought about a plague of insect pests and blight that did a deal of harm to the fruit crop in general. Many people predicted a scarcity, but the general prospect now is fairly good. Apples in this neighbourhood are an average crop; with me they are rather over average. Pears are scarcely average, some sorts being very scanty. Plums are an average crop, and on the walls promise to be of good quality. Apricots are average crop and good. Peaches and Nectarines are an average crop and very early. I gathered Alexander Peaches on July 10, the earliest date with me outside. Of small fruits, Currants are generally below the average, and Gooseberries a partial crop. Raspberries average, Superlative being excellent. Strawberries above average and of excellent quality, but of short duration.

Potatoes are looking well, early varieties good.—J. HOWARD.

Harewood Lodge, Sunnyhill.—Blight and maggot played sad havoc among Apple trees in the spring. The crop with me will be measured by gallons instead of bushels. Pears escaped and set a free crop of clean fruit, but from want of rain are very small. Plums and Cherries a total

failure. Apricots fairly good, in some places excellent. Peaches and Nectarines severely punished by blight, not half a crop on open walls. Gooseberries, White and Red Currants very good. Black Currants small. Strawberries in open quarters fairly good; a bed of that grand old late variety Oxonian under a north wall abundant and good, still (July 13) giving a daily supply of fine fruit. Why does not one see more of this grown on north borders?

Early Potatoes very good, late ones plenty in number, but without rain must be very small. Onions full crop, and for once free from maggot. Peas plentiful and good up to date, but late-sown crops are failing through drought. *Ne Plus Ultra* has done me such good service for many years that I am careful not to try new varieties against it for main and late crops. Dwarf Beans plentiful and good. Broad Beans a failure, but Scarlet Runner have made good headway, but want rain, and are very shy in setting. Carrots, Beetroot, Turnips and Parsnips a good plant, but want rain very badly. This remark applies also to all of the Brassica tribe.—C. DEAVIN.

Albury Park, Guildford.—With the exception of Apples and Pears, which gave every promise of being good, but which were destroyed by grub and blight, all kinds of fruit are a very good crop. Small fruits are very fine and plentiful. Strawberry has been a very fine extra heavy crop. I will find the old Royal Strawberries among the best both for forcing and outside. The new Royal Sovereign is not nearly so good as Sir Joseph Paxton, particularly outside. Royal Sovereign is too tender, while for flavour the old sorts are preferred.—W. LEACH.

Eridgefield, Reading.—Here Apples are about half a crop, the only one or two varieties bearing good crops, namely Cox's Orange, Keswick Codlin, Norfolk Beaumain and Worcester Pearmain. Pears are about half a crop. Plums are good. Peaches very good, both indoors and out. Apricots a full crop. Bush fruits, Currants, Gooseberries are carrying good crops of fruit. Strawberries have also done well. I find Sir Joseph Paxton hard to beat as a midsummer variety. Raspberries very poor crop.

Potatoes are looking very well, no trace of disease at present. Early Peas were good, but later varieties are poor.—F. COOMBE.

Titsey Gardens, Limpington.—Apples are very partial. Pears good. Peaches and Nectarines plentiful. Apricots partial, good crops in places. Plums good. Gooseberries good, also Red and Black Currants. Strawberries were fine, considering the dry season. Nuts are plentiful.

Peas are very good, and have been from the first crop. I always grow Veitch's Selected or Early Gem for the first supply, and can find no better for that purpose, a Pea of excellent quality, taking up little room, as in the best soil here I find they only require stakes about 2 feet high, which I think is a great boon where ground is limited, as it enables a gardener to plant another between. Our soil here is a peculiar one, the strata consisting of chalk, which is very trying in a season like this. We suffer greatly from drought, and not having a supply of water makes it very worrying to a gardener, especially when he cannot obtain enough water to keep his wall trees alive. I have just lost two splendid Morello Cherries through the drought, trees which had just reached the top of their crop; also one large Pear tree through the same cause. Peas which I grow for late work are Veitch's Perfection and Autocrat. These, sown in early June, bear in September, and continue to produce till the frost comes.—G. DEAN.

Addington, Winslow.—Fruit crops of all kinds moderate. Gooseberry and Currant bushes, both Black and Red, were much injured by bullfinches. The Strawberry crop pretty good, but soon over. A very marked feature of this year has been the wonderful wealth of blossom on all flowering trees and shrubs.

The winter of 1895-96 being so mild and open, winter vegetables of all kinds did remark-

ably well. Broccoli, which generally suffers, was particularly fine. All kinds of Kale were most productive, particularly Cottage's Kale. I cannot say so much for our summer crop. To begin with, the open winter did not leave the land in the best of condition for working. Then the long spell of dry weather in April and May was much against the progress of many crops. The early and midseason Peas have been fair, and if we do not have an alteration in the weather very soon small varieties will not have a chance to do much good. Last year I found Autocrat, Exonian, Dr. Maclean and Veitch's Perfection most useful varieties. Potatoes so far look well. Early kinds, such as Sharpe's Victor and Ashleaf Kidney, are of fine quality when cooked.—J. MATHISON.

Hanger Hill House, Ealing.—Apples generally are scarce, below the average. Pears are about an average, but rather poor in quality. All kinds of bush fruit are in abundance, but rather small, and some kinds, especially Raspberries, lacking in flavour. Strawberries were considerably above the average, good in quality, especially British Queen. This with me does exceedingly well on a heavy soil. Peaches and Nectarines are very good. Apricots above the average and of good quality. Plums and Damsons are a good crop in all forms of tree. Cherries below the average.

Vegetables of all kinds are plentiful, except Peas; these generally have suffered from blight. All winter and spring Brassicas are looking wonderfully well.—DAVID COOPER.

Luton Hoo Beds.—Considering the dry season, crops generally have been very good. Apples and Pears are about the average, so are the Peaches and Apricots. Lane's Prince Albert is the best all-round Apple in this neighbourhood and certainly cropping. Strawberries have been very good, but owing to the dry weather the crop was somewhat lighter than usual. The most reliable here are Vicomteau, Royal Sovereign, President, and Sir J. Paxton. Stevens' Wonder is a good early force. Leader and Monarch have both been tried, but have not yet been sufficiently proved, although as far as can be judged at present, both are come to stay. Plums on the walls are a good crop, but on the pyramids a failure. All kinds of small fruits, such as Currants, Gooseberries, &c., have been good.

Early Potatoes are good in quality, but the crop is very light. I fear the main crop, on account of the dry season, will be light also. Never before have we had early and second early Peas in such abundance. Veitch's Extra Selected Early is the one relied on for first crop. Turnips and Cauliflowers have been rather scarce; all other crops good.—GEO. H. MAYOCK.

Aldenham House, Elstree.—The fruit crops are generally satisfactory in this district, but are beginning to feel the effects of the continued drought. Apples are abundant, clean, and the foliage healthy. Pears, except on walls, are not so plentiful, but the fruit is swelling away freely. Plums and Damsons are a poor crop and the foliage badly infested with aphids. Cherries of all kinds average crop and good. Peaches and Nectarines in many places excellent. Apricots average crop and good. Small bush fruits of all kinds very heavy crops, especially Gooseberries. Strawberries a fair crop and good flavour, but small and soon over. Nuts of all kinds very abundant.

Vegetables I cannot speak so favourably of. Continued dry weather and the hot, searching sun have been most trying to nearly all kitchen garden crops. Potatoes are small, but clean and free from disease. Peas are eaten up by thrips.—EDWIN BECKETT.

Royal Gardens, Windsor.—The fruit and vegetable crops in this district have suffered considerably from want of rain, also from the attacks of vast numbers of caterpillars, and though on looking round, I find I shall have a good quantity of Apples and Pears, I must state the crop will be below the average and I expect the fruit small. Cherries are now over, but have had good crops

and very early. Apricots heavy crop, but small. Peaches and Nectarines good crops and trees looking well. I picked my first dish of Peaches outside on July 2—Early Alexander, very fair fruit and nicely coloured; Early Rivers and Waterloo a few days later were also very good. Plums medium crop. Early Prolific is ripe and has been more than a week. Damsons fair crop; these are not much grown about Windsor. Strawberries abundant and of good flavour; Noble and Royal Sovereign very fine. Ripe fruits were gathered off a south border from runners planted last autumn on May 29. Of other varieties the following are good: Sebright Scarlet Queen, Lord Stamford, J. Barron, Lester, Aromatic, Sir J. Paxton, and Waterloo. La Grosse Sucrée is still as good and reliable for forcing and packing as any.—O. THOMAS.

Buxted Park, Uckfield.—The present season on the whole cannot be considered, in this district at least, any better than a fair one. In giving a report it is well to consider all points, and though some kinds of fruit may not be up to the standard, others again are well in excess of their usual quality. In the first place the Strawberry crop with us is a good one, both as regards size and of quality of fruit. Amongst the best were Royal Sovereign, President, Gunton Park, Lord Suffolk, Scarlet Queen, A. E. Barron and Auguste Boiselt. Coming next to the Raspberries, these have certainly been a wonderful crop, but on poor ground the flavour has not been up to the usual standard. Superlative with us was the best. Gooseberries have been an enormous crop and of good quality, while both Black and White Currants are short. Apples are not a full crop, though some varieties, such as Kerry Pippin, Irish Peach, Cox's Orange Pippin, King of Pippins, Lane's Prince Albert, Ecklinville, Worcester Pearmain, Stirling Castle, Duchess of Oldenburg, Warner's King and others, are a full crop. Pears, more particularly on the walls, are quite up to the average, whilst those in the open have a fair crop. Plums on walls are very good, and such well-known varieties as Monarch, Diamond, Czar, Early Rivers and Victoria in the open ground are very good. Cherries with me are very good; in fact, I have never known the sweet varieties produce a heavier crop. Peaches and Nectarines are both good, though the fruit, owing to the dry weather, is rather small. The apricots are a fair crop, and the fruit is quite up to the standard as regards size.

Now both Fibberts and Walnuts, are a heavy crop; therefore, taking things all round, the present fruit season cannot by any means be considered a bad one.

Vegetable crops of all kinds have been very good, with the exception of Spinach, which of late has been most difficult to produce. The best we had of this is one named The Carter, a variety sent out by the firm whose name it bears. It is too early yet to speak of the late Potatoes, but from appearance, unless rain falls soon, they will be small. The early ones have been very good and a fair crop. Cauliflowers I never remember being so good, but owing to the hot weather they turn to too fast. French Beans have been most prolific where watered regularly. Of the runner beans it is rather too early to speak, as the majority of varieties are only just bearing. Turning to Peas, we have had much trouble of late in keeping them up to the usual standard, the weather being so hot. Of the early kinds Chelsea Gem still holds its own, and this season with me attained its usual height of 9 feet. Sutton's Early Forcing was a very prolific kind, but the same may be said of Early Gem and Excelsior, all of which are good. Amongst the midseason or main-crop varieties we must give Veitch's Main-crop a first place, then Sutton's Dwarf Defence. Eckford's Prior was first-class as a tall kind, and the same may be said of Rox, sent out by the same firm. Boston Unrivalled, a variety sent out by Messrs. W. W. Johnson, was most prolific, growing to the height of about 6 feet. I must again give a word of praise to Sutton's Peerless, as it kept longer in condition than most others, and produced an enormous crop. A variety named

Magi, sent out by Mr. Eckford, appears to be very good; it grows to the height of about 4 feet, is of a dark green colour, and a most prolific bearer. This far has been a trying season for the root crops, more especially Turnips, as they so soon turned stringy. Snowball is still one of the best early kinds, while Purple-top Stone holds its own as a midseason variety. Early Carrots have been good, though there was much trouble at the commencement of the season to keep off snails and slugs. Spring Cabbage was very good, particularly Flower of Spring, Sutton's Favourite, and Ellam's Early. One of the most remarkable crops we have had has been the Globe Artichoke. The winter being mild was very favourable to an early crop, many of the flower-stems pushing up in April, so that during the month of May there was an abundance of fine crowns. The plants, being well rooted, have continued to send up flower-stems till the present time, although the weather has been so dry.—H. C. F.

WESTERN.

Condover Hall, Shrewsbury.—Considering the dryness of the past few months, the fruit crop has been very favourable. Here and in the neighbourhood President Strawberry (one of the best for quality) has been very good; fruit quite equal to last year. From two beds I gathered 500 lbs. Apricots are bearing medium crops, but fruit good. Gooseberries exceptional crop; also Currants. Damsons are now ripe with me, although trees were covered with blossoms. Raspberries fair. Nuts are plentiful. Apples not so abundant as last year, but a very good all-round crop. Lord Suffield will be very large again. Pears only a crop here and there. Louise Bonne of Jersey is bearing well, more especially trees on the walls. Plums a partial crop.

Vegetables did well in early part of season, but not many Peas stood the dry weather. Tomatoes, owing to the very fine weather, are giving excellent results.—JAS. NEWMAN.

Wilton House, Salisbury.—The fruit crop in this garden and neighbourhood are good, but where frequent washings and waterings have been neglected, great injury has been done both to crops and trees by the continued drought and the consequent increase of insect pests. Apples are a good crop, but not abundant. Pears good, but under average. Plum fair crop; trees much infested with aphis and red spider where they have not been well and constantly cleaned and watered. Cherries good, fine crop. Peaches and Nectarines extraordinary crop and fine in quality. First ripe fruit (Waterloo) from open wall gathered July 6. Apricots heavy crop, fine in size and quality. First fruit (Large Early) gathered July 4. Gooseberries, Currants and Raspberries average crops, good in quality. Strawberries under average. Nuts fair crop.

In consequence of the continued heat and dryness the vegetable crops have suffered severely, and where constant watering has been impracticable, such crops as Turnips, Cauliflowers and Peas have been very scarce. Potatoes, although a light crop, are good in quality and perfectly free from disease.—T. CHALLIS.

Badminton, Gloucester.—The fruit and vegetable crops in this garden and neighbourhood are not so satisfactory as at one time they promised to be, the continued drought militating much against a free growth in most things. Apples are an average crop, but I fear they will not be very fine, as the foliage in many cases is poor and the growth stunted. Pears here are under the average, but the trees, unlike the Apples, are making fair foliage and wood. Plums are extremely partial, some being laden with fruit, Victoria and Green Gages especially so; other varieties, including Damsons, rather bare. Apricots are very good, and a heavier crop than last year. Strawberries were abundant and good, but the season was soon over owing to the dry, hot weather. President is still the best all-round variety I can find, and Vicomtesse stood the

drought well and is most reliable. Gooseberries and Currants of all kinds are good and plentiful. I think I never remember seeing the fruit gathered in better condition, so dry and clean.

Vegetables of all kinds have suffered from the extreme dry and harsh atmosphere and want of rain.—W. NASI.

Trelissick, Truro.—The Apple crop in this neighbourhood will be less than one half of an average season. The trees blossomed and set well, but the fruit has since fallen off, and that left will be very small and prematurely ripe. Pears are a fair average crop and promise well. Peaches and Nectarines are a splendid crop, the trees being clean and healthy, a result attained no doubt by incessant watering to root and branch. The first fruits of Early Beatrice were gathered on June 26, the earliest date here for out-of-door Peaches. Plums are an enormous crop, but are failing through the severe drought. Cherries moderate, but wall trees full of blight. Bush fruits have been plentiful, especially Gooseberries, but much pestered with caterpillar; had to give frequent syrings with hellebore power to keep them in check. Strawberries have been a complete failure, many of the plants destroyed with the great heat and red spider, watering done fairly well. Waln fruit, such as Peaches, Plums, &c., have every appearance of doing well, although not so plentiful as last year. Apples and Pears, which usually do so remarkably well in this neighbourhood, will, I am afraid, be much under the average, but it is not to be much wondered at, seeing we have only had about 1½ inches of rain during the last three months.—THOMAS CRAWFORD.

east winds, they were so much blistered. Apricots a fair crop and nice fruit. Cherries a most abundant crop, but fruit not over large except where thinned out. Apple trees bloomed well, but cold east winds and frosts when in bloom carried off a lot of them. We have a fair crop of fruit left. Pears average crop and good fruit. Plums above an average in some places and nice fruit. Nuts small, are above an average.

Early Potatoes are very small, but late ones look remarkably well in garden and also fields, and if we can get a good rain within a week we shall have a wonderful crop.—T. WILKINS.

Bosham, St. Martin, Cornwall.—Owing to the almost unprecedented drought, I can give but a very poor account of the fruit and vegetable crop this season. Strawberries (out-of-doors) were scarcely worth picking, being very little larger than the common wild variety. Black and Red Currants scarcely half a crop. Raspberries (being in a rather more shaded situation) have done fairly well. Wall fruit, such as Peaches, Plums, &c., have every appearance of doing well, although not so plentiful as last year. Apples and Pears, which usually do so remarkably well in this neighbourhood, will, I am afraid, be much under the average, but it is not to be much wondered at, seeing we have only had about 1½ inches of rain during the last three months.—THOMAS CRAWFORD.

GARDEN FLORA.

PLATE 1079.

HYDRANGEAS.

(WITH A COLOURED PLATE OF H. HORTENSIA VAR. JAPONICA ROSEA.)

There are about a dozen species of Hydrangea now in cultivation, at least half of which may be accounted useful hardy shrubs. As a greenhouse plant H. Hortensis is, of course, known everywhere, but for cultivating out of doors it is only in mild-wintered localities like Devon and Cornwall that it is of any great value. With the exception of this species, however, and in a less degree of H. querifolia, all the species mentioned in the following notes are quite hardy in the neighbourhood of London. None of the Hydrangeas are natives of Europe, but, like so large a proportion of our hardy trees and shrubs, are represented in North America and in Northern Asia. They are all of shrubby habit and have opposite leaves, the flowers appearing in terminal corymbs or panicles. Plants have many different ways of attracting insects to fertilise their flowers, but in most cases where bright colours are the attraction each flower does its share in the general advertisement. In Hydrangeas, however, certain flowers are told off for that purpose alone. In every species in a wild state there are two kinds of flowers, the ones perfect in all the essential organs, but comparatively inconspicuous; the others, which are generally on the margin of the inflorescence, being many times larger than the former, and, whilst devoid of stamens and pistil, have broad, conspicuous petaloid segments, which give the inflorescence its chief beauty. Cultivation has had the effect in the case of several species of changing a large proportion (or even all) of the small perfect flowers into the large sterile ones, and thus adding much to their showiness. This, of course, prevents the formation of seed, but as Hydrangeas are very easily increased by cuttings or layers it is not a detriment.

The early Potatoes are not worth lifting, and the late varieties are growing out. Peas are a complete failure, and this is the case with all vegetables.—S. J. RICHARDS.

Shobdon Court, Herefordshire.—Apples are an average crop, taking the district collectively, in some cases in orchards abundant. Pears a good average, early varieties plentiful. Apricots under average. Peaches and Nectarines average. Figs outside promise a fair crop. Plums and Damsons are over average crop. Damsons in some cases being abundant. Bush fruit is a good crop, though small. Strawberries though a heavy crop did not ripen well and were very soon over owing to the hot, dry weather.—G. PRIDHARD.

Inwood, Blandford.—All small fruit such as Gooseberries, Currants (red, white, and black), Raspberries, Strawberries, a tremendous crop; fruit small and soon over. Peaches and Nectarines under average; owing to so much blight and

* Drawn for THE GARDEN by H. G. Moon at Messrs. Veitch's nursery. Lithographed and printed by J. L. Gollart, successor to Guillaume Severyns.



HIBISCUS SABDINUS ROSEA

fairly rich soil, none of them being in any way difficult to accommodate. The two climbing species, *H. petiolaris* and *H. altissima*, should be grown on a sunny wall.

The following is a list of the chief species and varieties in cultivation :—

NORTH AMERICAN.

H. arboreascens (*H. urticafolia*).
var. *cordata*.

H. quercifolia.

H. radiata (*H. nivea*).
" var. *canescens*.

ASIATIC.

H. altissima.
H. Hortensia (*H. japonica*).
" var. *acuminata*.
" var. *japonica rosea*.
" var. *Lindleyi*.

of *H. radiata* is ovate and has smaller, more finely-pointed teeth, the chief distinction, however, being in the under surface, which in this species is covered with a closely appressed felt of a vivid bluish white colour, giving the plant a striking appearance when blown by the wind. It flowers at the same time as *H. arboreascens* and has also white flowers, the sterile ones being few and distributed on the margin of the panicle. *Nivea*, a more recent name than the one here given and frequently used, refers to the peculiar showy white under surface of the leaf. Although *H. arboreascens* and *H. radiata* are readily distinguished in their typical state, they are united by numerous intermediate forms, probably of hybrid origin. In the collection at Kew there are about half a dozen plants, each different and ranging between the two, but it is hard to tell where one species ends and the other commences. Attempts have been made to classify them, and such varietal

the *Hydrangeas* in gardens, but is grown almost solely as a greenhouse plant. In the south-west, however, it is one of the most effective of hardy shrubs. In Mr. Rashleigh's garden at Menabilly, in Cornwall, it is grown in great quantity, especially in shady positions near walks and drives. I saw it there one September day a few years ago and was charmed with its beauty. In cold districts, after a winter that has been mild enough to enable the terminal buds of the previous summer to grow, it is sometimes very fine. In a cottage garden at Batsford, the village near Mr. Freeman-Mitford's delightful garden, I remember seeing a fine plant in flower in the autumn of 1894. The plant is too well known to require any description, but there are several other *Hydrangeas* that have been made varieties of it which are well worth bringing to the notice of those interested in hardy shrubs. To the cultivator they are chiefly valuable because they flower well when grown as purely hardy shrubs. Unlike the common *Hydrangea*, they blossom on the shoots that come from the axillary buds of the previous year's growth, and although the terminal buds may be killed in winter, this interferes but little with the crop of flowers the following July. The following four varieties are of this group :—

H. VAR. LINDLEYI (see plate in GARDEN, December 1, 1894) has the sterile flowers confined to the margin of the inflorescences and they are of a pale rose colour, each one $\frac{1}{2}$ inches to 2 inches in diameter, the whole corymb being sometimes 6 inches across.

H. VAR. JAPONICA ROSEA.—Flowers of the same colour and size as those of var. Lindleyi, all of them being sterile (see coloured plate).

H. VAR. STELLATA is in itself a variable plant. A large proportion or all the flowers are sterile, the segments being narrow and pointed, sometimes slightly toothed; at first pale rose, they gradually assume a deeper shade.

H. VAR. ACUMINATA is now flowering at Kew and the sterile flowers are of a lovely shade of blue, but they are as frequently rose-coloured. *H. Hortensia* has the peculiar property of changing the colour of its flowers from blue to pink or vice versa. The flowers come blue when the plant is grown on ferruginous soil. These four varieties are all different from the ordinary *H. Hortensia* in the leaf being smaller and of a duller dark green. More closely resembling the type and better suited for the greenhouse are the three following :—

H. VAR. OTAKSA, with sterile flowers at the outside of the corymb only.

H. VAR. NIGRA (*cyanoclada*), with stems of a dark purplish brown, and very handsome on this account.

H. VAR. THOMAS HOGG.—A very beautiful plant with flowers of the purest white.

[It may be here noted that the above is the correct spelling of the specific name—not *hortensis*.]

H. PANICULATA.—In the home counties this species shares with the harder section of *H. Hortensia* the distinction of being the showiest of the genus. It is a robust, strong growing, and quite hardy shrub, with short-stalked ovate leaves varying from 3 inches to 6 inches in length, and slightly hairy on both sides. They are borne in whorls of three at one node. The flowers are borne in erect panicles, only a small proportion being of the large sterile kind. On first opening they are almost pure white, afterwards assuming a pinkish tinge. The typical form is not so much in demand as the var. *hortensis* (or *grandiflora*). This has all its flowers sterile, and is in consequence much more effective than the ordinary form. It produces its huge pyramidal clusters in early autumn, and they remain in beauty for several weeks. I notice that in the United States this variety is nearly always spoken of as being inferior in beauty to the type and wanting in the grace and lightness of the latter. Possibly they both flower more profusely under the brighter American skies, and



Hydrangea Hortensia as a pot plant.

H. Hortensia var. *nigra* (*H. cyanoclada* and *H. mandshurica*).

var. *stellata*.

H. paniculata.

var. *hortensis* (*H. p. grandiflora*).

H. petiolaris (*H. scandens*).

H. pubescens.

H. Thunbergii.

H. ARBORESCENS.—A spreading, vigorous bush with large cordate leaves, the largest of which are 7 inches long by 5 inches broad. The margins are coarsely toothed and the apex is drawn out into an acuminate point. The upper surface is glabrous and of a vivid dark green, the under surface paler and hairy. The flowers are produced in a corymb or panicle and are dull white, but few being sterile. At Kew this species is at present only 4 feet high, and is chiefly noticeable for the size and brilliant green of its leaves. It flowers in July and August.

H. RADITA.—A bush of much the same size and habit as the preceding species, to which, indeed, it is nearly allied. In their typical state, however, the two differ considerably in leaf. That

names as *cordata*, *lavigata*, *discolor*, &c., have been applied. The question, however, has but little practical interest.

H. QUERCIFOLIA.—A species found in the elevated parts of North Carolina, Georgia, and other Southern States. It is a shrub rarely more than 2 feet to 3 feet high in Britain, but said to attain almost tree-like dimensions in its native localities, reaching in moist situations a height of over 12 feet. It is the most distinct and handsome of the American species, being noteworthy alike for the beauty of its flowers and foliage. The leaves are large, measuring 5 inches in diameter, by 4 inches in width, and similar in shape to those of the main, are deeply lobed after the fashion of the American Red Oaks, to which, no doubt, this species is referred when giving the name of *quercifolia*. The flowers are borne in large thyrsoid panicles, the lower ones being sterile and white. This is the tenderest of the American *Hydrangeas* and should be given a sheltered position where the soil is deep and moist. It is a rare plant both here and in the United States.

H. HORTENSIA.—This is the commonest of all

whilst the species itself becomes more striking than it is with us, the sterile variety becomes too lumpy and heavy. In England, however, it does not seem to have that defect under ordinary treatment at any rate, and is, I think, to be preferred to the wild form from which it sprung. A native of Japan.

H. HEDERA-ES.—A robust and perfectly hardy species of erect growth and at present 6 feet high at Kew. It has narrowly ovate, acute, finely-toothed leaves, 3 inches to 5 inches long, with a few hairs on the veins. The flowers are produced in a flat corymb, measuring 6 inches across, the outer ones being all sterile and pure white on first opening, afterwards rose. The perfect flowers are of a dull white. It comes into bloom in the latter part of June, and the blossoms remain on the plants till the early frosts of autumn. This species, like the rest of the Hydrangeas, varies, and the plant introduced some years ago as *H. pekinensis* is but a form of it, differing in some small particulars of the foliage. Given a sunny, sheltered position, this Hydrangea forms a really handsome shrub, although it has not the showiness of the two previously mentioned. It is a native of the mountains near Pekin, whence it has been introduced by Dr. Bretschneider. It is said also to be wild in Japan, but this is doubtful.

H. THUNBERGII.—One of the dwarfest of the Hydrangeas and one of the most interesting. It has stood outside at Kew for several years without protection and is about 1 foot high. The leaves are like those of *H. Hortensia* var. *Lindleyi*, except that they are smaller, and the flowers are in corymbs 3 inches or more across. The sterile ones are blue or rose, according to the soil in which the plant grows. A native of the mountains of Japan, and more botanically than horticulturally interesting.

H. PETROLARIAS.—This, better known as *H. scandens*, is a climbing species, native of Japan. The leaves are almost as broad as they are long, and are truncate or slightly cordate at the base. The petioles are very hairy and long in proportion to the blade. The flowers are produced in large, flat corymbs sometimes 10 inches in diameter; the few sterile ones are whitish, the fertile ones having a greenish tinge. This is an interesting and striking wall shrub, clinging by its aerial roots much as the ivy does. In foliage and mode of growth this species resembles *Schizophragma hydrangeoides*, and is frequently grown under that name. The two are quite distinct. Professor Sargent in his "Flora of Japan" says, "Nothing is so un-American, or so attracts the attention of the American traveller in Japan, as the trunks of trees clothed to the height of 60 feet or 80 feet with splendid masses of the climbing Hydrangea (*H. petiolarias* and the *Schizophragma*), or with the dense evergreen foliage of the climbing Eurycoma."

H. ALTISSIMA.—A climbing Himalayan species introduced (so says Loudon) in 1839, but still very rare. It is not so close a climber as *H. petiolarias*, and it differs also in its larger, ovate leaves. The flowers, only a small proportion of which are sterile, are produced in flat corymbs and are white. Royle states that this species climbs lofty trees in the forests of Nepal.

W. J. BEAN.

Erigeron glaucus.—Of the dwarf members of this genus this species is among the best and most useful, valuable for its freedom of flowering and equally so for its distinct sub-shrubby habit of growth. The true plant, moreover, would appear to be scarce, as not unfrequently one of the forms of *E. speciosus* has to do duty for this plant. Indeed, on one occasion at the Drill Hall recently a variety of the latter was exhibited as *glaucus*, but the two are among the most widely distinct of any. The true plant, as I have said, is of sub-shrubby habit almost, the growth more or less persistent, but in all the forms of *E. speciosus* the stems are strictly herbaceous. The dwarf, spreading, almost tufted habit, as well as the glaucous grey of its distinctly spathulate leaves and woody

stems are among the more distinguishing features of the true plant. The floret rays are of lilac, the flower being sterile, and there are usually three or more in each stem. It is one of the finest of summer rock plants where a good depth of soil is forthcoming, but failing this it would be better in the border. An excellent plate of the above species occurs in Wooster's "Alpine Flowers." —E. J.

THE WEEK'S WORK.

KITCHEN GARDEN.

WINTER ONIONS.—Gardeners vary somewhat in the time they select for sowing winter Onions and also in their methods of treatment. My own experience in this district is that a date very near to the 20th of August is the best that can be chosen, the young plants then having a fair chance of becoming a good size without getting too big before winter. I also find that the best results attend sowing on firm ground, though this has not always been my practice, and I may say that the finest autumn-sown Onions I ever saw were grown in little else than leaf-mould and manure. This, however, was in a much milder climate than we enjoy, and the practice would not be admissible here, as the soft growth made under such conditions would most certainly be killed in this neighbourhood during an average winter. I prefer now to sow on an old Strawberry bed, without any further preparation than clearing the ground and drawing the drills, which should be some 15 inches apart and somewhat deeper than they are usually drawn for spring-sown Onions. I practise thin sowing, and let some of the plants which fair best with the others, and the thinnings are planted elsewhere in spring. For some years I used to sow on a warm border in some old beds and transplant the whole of the plants, but I find that we get better results from the altered practice. Much has been written about sowing varieties other than those generally recognised as suitable for the autumn, but having given most varieties a trial, I see no advantage in using any but the Tripoli and Rocca varieties, and of them all I prefer the White Leviathan Tripoli, as this commences to bulb earliest than the others, is always mild in flavour, and very rarely runs up to seed, which is a prominent fault with most varieties when sown in autumn. Trebons is also good, and the only fault I have to find with it is that the seed is frequently defective in germinating power. The Giant Rocca becomes in some seasons too pungent to be pleasant. I gave last autumn an equally fair trial to the above, and grew with them also the new Record and Cranston's Excelsior, but found, as usual, none so satisfactory as the White Leviathan. In writing thus, it must be understood that I am not taking the keeping properties into consideration, as I only sow in autumn to fill the gap between spring-sown crops.

ONIONS—SPRING SOWN.—These will be ready for harvesting and should not be allowed to start root-arching before being pulled, or their keeping qualities will be much impaired. Choose the best dry day for pulling, and the tubs will finish better if they can be removed to a sunny spot on a hard bottom, such as a gravel walk. Lay them out thinly and stir them over occasionally until they have shrunk somewhat and are perfectly dry all round, then move them into a cool shed, where they may remain until time can be found for bunching or roping them. Large bulbs for exhibition purposes, or which may be selected to produce seed, should have a little extra care in ripening, and will be best if inverted on something that can be placed under cover by night and brought out by day. I use for this purpose an old light from which the glass has been removed, and stretch across this a strong piece of fish net, through which the necks of the bulbs can be drawn: this is then elevated on flower-pots, and in this way the bulbs may be ripened

perfectly. Galvanised netting may be used in place of fish net, but on this heavy bulbs are liable to bruise themselves.

WINTER RADISHES.—Should these be in request, a sowing proportionate to the demand should be made of the Black Spanish and China Rose radishes. These unlike the summer varieties require to be sown in full size, as they retain their crispness, so they should be sown thinly and thinned out when large enough to a distance of from 3 inches to 4 inches apart. I have before now noted the partiality Radishes have for good soil which has been recently brought to the surface, and I grow those for winter between the rows of Strawberries in newly-planted beds; this saves the preparation of ground specially for the Radishes and does the Strawberries no harm. Sowings of summer varieties must still be continued, and from now onward I like none better than the French Breakfast, as this is always attractive in appearance and can be had in excellent quality well into November.

FRENCH BEANS.—These plants being very tender, it is useless to depend on any future sowings made outdoors for a crop, and especially is this so in low-lying gardens where frost is not uncommon in autumn. Those who have the advantage of pits which may be heated at any time will do well to sow in one of these on a bed of good, light and rich soil, where the plants may have the advantage of artificial heat whenever required, but in the majority of cases it will be necessary to sow in pots or boxes, which may be removed to such pits or frames after these are cleared of other crops. In either case cool culture, with a full exposure to light and air, must be given to the plants during the first few weeks of their existence; this treatment will give a clean and healthy start and be conducive to good cropping later on. Red spider is very prevalent this year, and means must be taken to prevent it from attacking the Beans, the best means of prevention being to provide a rich larder for the plants and strict attention to their needs as regards water. It can best be provided for a small sowing on a warm border outside, it will be made to take root, as there is a possibility of their escaping frost and giving a good crop, but, as I have already said, there must be no dependence placed on this, and I only advise it as a supplementary provision which would be found very useful if all went well with it, and in any case no harm would be done in trying in this way for an extra supply. *Ne Plus Ultra* is my choice for present sowing under either system, and Mohawk is also useful, being a very quick cropper.

BRUSSELS SPROUTS, &c.—Before these get too large to admit of its being done the stems of these and all other members of the *Brassica* family should be well moulded up by drawing a good bank of soil to them from the intervening spaces between the rows; this steadies and strengthens the taller varieties, and it also has a good influence on the growth made later. The difference between rows moulded and those left undone is most marked, even when other details of treatment are similar. With the same object in view I have always recommended deep planting, a thing I find very necessary on this soil. Some of the earliest Brussels Sprouts were moulded some weeks ago and are making great progress, but the majority of such things will be just ready for the attention.

CELERIAC.—This, like Celery proper, is a water-loving plant, and unless it has a fair share of moisture during the growing season the roots will be small and of bad texture. It should have ample encouragement and will well repay for good feeding with manure watered on the stock-yard, and this should be supplemented by a mulching of short manure where this can be spared; or where there is a scarcity of this, any of the various substances used as mulchings will serve to conserve moisture and to encourage growth.

GENERAL WORK.—This will largely consist in attention to various details already advised, such

as running a little soil into the Celery trenches to keep the leaves from falling abroad, filling in around Leeks, planting out Endive, Coleworts, &c., and the various batches of seedlings become fit and room can be found for them. Hoeing is also an important matter just now, as we may certainly be justified in expecting weather which will make the killing of weeds more difficult than it has been, so that no pains should be spared in getting rid of the autumn crop as opportunity offers. Mushroom beds giving over bearing should be watered if dry; this will give them a chance of producing a second crop before they are destroyed. A little salt or stable drainings in the water used will have a quickening effect.

J. C. TALLACK.

HARDY FRUITS.

ORCHARD TREES.—The summer pruning of Apples and Pears if not already attended to should now be taken in hand. Those trees that did not have the young shoots pinched back in the early part of the season will have made a quantity of brushwood; this, with the exception of what is required for extending the size of the tree or for filling in vacancies, should be cut back to within three or four inches of their base, taking care in doing so not to injure the leaves which are left, as those will be required to draw up the sap for developing the buds at their base. Where the trees are of fair size and have made strong growth, it would be the better practice not to remove these all at once, but to go over them a couple of times, taking the strongest first, that there may be no check to the growth of the fruit. It is, however, seldom that trees which make such gross wood fruit very freely. Any branches that have got too close to each other should be tied in position, that the fruit may have the full benefit of the sun. These remarks apply to young trees that are growing vigorously, as it is seldom that old trees need much summer pruning. Some of the early varieties will be ripening. Where blackbirds and thrushes are very numerous the fruit must be protected, otherwise these will soon clear off the whole crop. Where it is practicable the trees should be netted with half-inch netting, for sometimes small birds, such as tomits, are very troublesome, making holes near the stalks where the wet penetrates, which soon rots the fruit. If it is desired to preserve any fine specimens for a particular purpose, these should be put in muslin bags to ward off the wasps and flies. We frequently see the finest examples attacked by these creatures, particularly those containing the most saccharine. Beauty of Bath, Irish Peach, Kerr's Pippin, and others of that class are special favourites. The budding of Apples should now be completed. Those budded in the last month should be examined, and where any have started into growth, the side shoots on the stock should be shortened, that the sap may be concentrated in the scion. The ties ought to be inspected to see if they are cutting into the stock, for if this happens the union will not be perfect. Trees that were grafted in the spring should by this have made a good growth; the young shoots will therefore need support to prevent them from being blown away by high winds. Where worked near the ground there will be no difficulty in making them secure; those, however, that were grafted some distance up ought to have the sticks securely fastened to the stocks previous to tying the young growths to them. Young trees in the nursery ground should also receive attention. Where any have to be trained, this ought to be taken in hand before the shoots get too hard to bend easily. The first starting requires some knowledge, otherwise the shape of the tree must be spoilt. The shoots ought to be fixed in an equal distance from each other, that all may get the same amount of light. Watering orchard trees is not so much practised as it deserves to be. With young trees where the crops are heavy, growth is often checked in dry weather to such an extent that the trees are crippled, and fail to make the progress one would wish. Until

rain falls more freely than it has done of late, watering ought to be attended to.

PLUMS AND DAMSONS.—In this district the rainfall is still very short, being considerably below what it was last year, there having been up to the present time less than 10 inches; the ground, therefore, especially where the soil is poor, has become exhausted, and unless attention be given to the trees at once they will suffer. To prevent the fruit from ripening prematurely the soil round the roots of the trees should be thoroughly soaked, and if the foliage shows the least signs of being attacked with red spider the garden engine should be freely used till it has been cleared off. With the earlier kinds every care should be taken to afford them protection from birds and wasps. Where the fruit has to be sent away to a distance it should be gathered before quite ripe, and any that show the least signs of decay ought to be picked out. There are not many kinds of Plums that will bear a long length of time when fully ripe; therefore they should be gathered as they ripen, the trees afterwards being washed to rid them of any insect pests.

NUTS.—Cobs and Filberts are a good crop this season, but in districts where squirrels abound in any numbers they will soon be cleared off unless special attention is paid to the destruction of these annually. It is astonishing what a number of fruit they will carry away to their hiding places in the course of a few days. I know of no means for trapping them; a constant watch with the gun should, therefore, be kept, and when any make their appearance they should be shot.

STRAWBERRIES.—Plants that were potted in the last month should now be making headway. Where stood pot to pot on a bed of ashes they will now need more room that the sun and air may circulate freely amongst their foliage. Water must be freely given them, for at no time should they be allowed to get dry. When the pots are filled with roots liquid manure should be afforded twice each week that the soil may be kept in a high state of fertility. Any that have still to be potted should receive attention at once, otherwise they will not have time to make good crowns before winter. We prefer boxes for these late batches, as the plants do not suffer so much from the effects of the bright sunshine during April and the early part of May when in the forcing house. Boxes are, moreover, much easier to manage than pots, requiring far less attention. It is good practice to make new plantations at this time of the year, but this season, owing to the weather being so dry, there has been some difficulty in getting the plants forward enough for the pots. No time, however, should now be lost in bringing such work to a close if the plants are to be well established before winter comes on. The best crop of Strawberries we had in the year 1895 was from plants layered in pots and planted out early in the autumn; these were not affected by the severe winter previous, much of the foliage remaining green, while that on older plants was killed. Where fresh plantations have been made, every attention ought to be paid to watering should this dry weather continue, otherwise progress will be very slow. All runners must be kept pinched off as they appear, that the sap may be concentrated in their crowns, as the foliage will then be much more robust, and better results will be obtained next season. It is also a good plan to plant a row of each kind intended for forcing, to produce early runners. Such plants ought not to be allowed to fruit; they will then commence to grow much earlier. If planted on a piece of ground handy to the water, there will be less difficulty experienced in keeping the plants watered when layered, or of watering the plants early in the season should the weather be dry. Old Sawmills beds should also be located outside, all runners removed from plants that it is intended to renew for fruiting another year. Where any have died off, these should be made good from those layered in pots, planting three together triangularly to form a clump. We make it a practice at this season of the year, after clearing off all runners and weeds, to give a dressing of short

manure, which is dug in. This helps to keep down the weeds, and the fresh soil that is worked in among the crowns encourages new roots higher up the old rhizomes. Great care, however, is needed in digging so as not to disturb the roots of the plants.

H. C. PRINSEPE.

TREES AND SHRUBS.

HARDY SHRUBBY ARALIADS.

ALTHOUGH so distinct in general character, the Araliads are closely allied to the Ivies. The group, which contains trees, shrubs, and herbs, has its headquarters in tropical regions, whence come several very ornamental-leaved plants that are cultivated in stoves and greenhouses. From the tropics a few species spread northward to the cool temperate regions of North America and North Asia, and there are now in cultivation about half a score species of shrubby habit that may be grown outside in the southern parts of Britain. In Cornwall and similar places they would nearly all, no doubt, thrive as well as in their native homes, judging by those already growing there. As far north as London they should be given sheltered positions—not so much from fear of frost as the biting north and east winds which disfigure and cripple the young spring growths. They are valuable among hardy thymes because they represent a type of vegetation essentially tropical in general aspect, and in some instances quite distinct from anything else that can be grown permanently out of doors here. For the most part the following are comparatively recent introductions. Loudon in 1842 only knew one species—*Aralia spinosa*—although he mentions a second—*Aralia japonica*—which it is difficult to identify, as the figure in the “Encyclopaedia of Trees and Shrubs” is certainly not that of the *Fatsia japonica* described below.

NORTH AMERICAN.

Aralia spinosa.

Fatsia horrida (also native of N. Asia).

NORTH ASIATIC.

Aralia chinensis (*Drimanthus mandshuricus*).

Acanthopanax ricinifolium (A. Maximowiczii).

“ *sessilifolium*.

“ *spinulosum* (*Aralia pentaphylla*).

Fatsia japonica (Aralia Sieboldii).

Eleutherococcus senticosus.

Helwingia japonica.

ARALIA SPINOSA.—This shrub or small tree—a native of North America, and found chiefly on the western slopes of the Alleghany Mountains—may be taken as the type of a section of the genus *Aralia*, represented not only in North America, but also in Japan and Manchuria. We have in cultivation plants with such names as *A. spinosa* var. *elata*, *A. spinosa* var. *canescens*, and *A. chinensis* (*Drimanthus mandshuricus*), all of which may be considered forms of this species, differing only in geographical distribution and small characters. The true North American *A. spinosa* is not common in gardens, having given place to the Manchurian plant (here described as *Aralia chinensis*) which is harder. It has the well-known habit of the latter, the large bipinnatifid leaves clustering at the ends of the branches, each measuring 3 feet to 5 feet in length and nearly as much in width. The leaves have acute or varying degrees of prickliness, some having spines over 1 inch long on the petioles, others with much smaller ones, and some with none at all. The stems also are more or less armed with short strong spines. It flowers quite freely when a few feet high, producing a noble compound panicle of yellowish flowers at the end

of the branch. This plant should be given a sheltered, moist spot.

ARALIA CHINENSIS (*Drimorphanthus mandshuricus*).—Although both here and in its native country this Aralia occasionally attains to the dimensions of a small tree, it is more frequently of shrubby dimensions. The largest specimen I have seen is (or was a few years ago) growing at the entrance to Mrs. Shilson's garden at Tremough, near Falmouth. This is a tree 30 feet high and even more in the spread of its branches, with a trunk 9 inches in diameter. The leaves are bipinnate, like those of *A. spinosa*, and of the same or greater size. The leaflets, however, are broader and more coarsely serrate than those of the American plant, and also more glaucous and pubescent on the lower surface. These are the chief points of distinction. It is a native of Manchuria, hence the cumbersome name by which it has most often grown, though it might very well be dropped in favour of the shorter and more common name here given. What is practically the same thing is found elsewhere in Yezo and other parts of Japan. It is essentially a moisture-loving plant. The fine specimen at Tremough is growing close to a stream of water.

ACANTHOPanax REINHOLDIUM.—Next to *Aralia spinosa* this is perhaps the most striking of all the shrubby Araliads. It is perfectly hardy and grows freely at Kew. Like that species it is valuable for the striking shape and size of the leaves, which are of a type common enough in the stove and greenhouse, but rarely seen in hardy shrubs. The petioles are long and slender, the blade being digitate and the five, or more frequently seven, lobes serrated. The diameter of the whole leaf is 14 inches. It is very unlikely that this species will ever reach in Britain the dimensions of the wild specimens noted by travellers in Japan. Professor Rein, of the University of Bonn, mentions trees 90 feet high, with stems 9 feet to 12 feet in circumference. It is very common in the forests of Yezo, the great northern island of Japan. Its first appearance in Europe seems to have been with Van Houtte, who figured it in the *Flore des Serres* in 1874. The original plant was the product of a single seed which had unknowingly been sent to him from the St. Petersburg Botanic Garden, and which probably had been brought there from Japan by Maximowicz. It is now easily obtainable, and is well worth trying by those who take an interest in uncommon shrubs, and especially in the genera of the south and west.

ACANTHOPanax SERRULIFOLIUM.—A new species, a native of China, Manchuria and Japan. It has rugose, dark green leaves, consisting of three to five leaflets, the petiole and midrib having a few scattered bristles. This plant much resembles the *Eleutherococcus* described below, but is altogether smoother, whereas the chief feature of the other is its bristly character. The leaflets of the *Acanthopanax* are of rougher, firmer texture than those of the *Eleutherococcus*. This species is in flower at Kew, the flowers, as the name implies, being produced on a sessile, terminal, spherical head. The flowers are small, closely packed, and of a dull purple colour, with protruding stamens.

ACANTHOPanax SPINOSUM.—A small shrub with leaves divided into five segments (sometimes only three), each one being 2 inches to 3 inches long and three-quarters of an inch to 1 inch wide, ovate-lanceolate, and serrated. The stem is armed with a few sharp prickles. This plant is more frequently grown in a greenhouse than out of doors, more especially the variegated form. They are both hardy in sheltered positions, although they do not grow so freely as indoors. The variegated plant has its leaves edged with a broad border of creamy white. It is frequently grown as *Aralia pentaphylla* variegata. A native of Japan and introduced in 1874.

FATIGA HORRIDA.—This is a shrub very common in certain parts of North America to the west of the Rocky Mountains. It is found also in Japan. It has not yet been got to thrive well in this country, our winters possibly being too moist and

warm, and thus encouraging an early movement of the terminal bud, which is almost invariably injured by spring frosts. On the continent, where the climatic conditions approach more nearly those of its native land, it succeeds well and bears its fine scarlet fruit in abundance. It is a low bush, with stems and petioles densely covered with sharp spines, and with leaves that are palmately lobed and thickly set with prickles on the midrib and chief veins.

FATSIA JAPONICA.—Although best known as a greenhouse shrub and as one of the most popular of all plants for room and window decoration, this

these plants had no covering beyond a thick layer of dry leaves raked about them.

ELEUTHEROCOCCUS SENTICOSUS.—There is little to be said of this shrub at present. It is a very recent introduction, and there are only two small plants at Kew. It is distinct from all the Araliads here mentioned in the stems; these are thickly covered with stiff green bristles, not woody enough to be called spines in these young plants, whatever they may be on older ones. This bristliness extends also to the long slender petiole, the midrib, and the veins of the leaf on the lower surface. The leaf is made up of five distinctly



Aralia spinosa in the garden at Castlewellan, Co. Down. From a photograph sent by Lord Annesley.

species has also considerable value and interest as stalked leaflets of lanceolate shape, 2 inches to 4 inches long, and doubly serrate. Both surfaces are glossy green. The species is a native of China and probably other parts of North Asia.

HELVINGIA JAPONICA.—This must be looked upon as a botanical curiosity rather than as a shrub of any great horticultural value. A plant is growing on the walls at Kew which flowers every spring. It is remarkable in producing the flowers, which are small and greenish on the middle of the upper surface of the leaf. The leaves are ovate-lanceolate with ciliate dentate margins, and of a very lustrous green on the-

THE GARDEN.

lower surface, duller green above. The species is a native of Japan, whence it was introduced to the Continent by Siebold in 1830. The young tender leaves are said to be used as a vegetable by the Japanese.—W. J. BEAN.

Lord Annesley sends us the following note re the plant figured:—

The specimen in the photograph was taken from 17 feet in height, with a diameter of branches 20 feet. In addition to its large leaves and subtropical appearance, it is very ornamental when in bloom in September, having large panicles of small whitish flowers. It is readily propagated, as it produces suckers freely, young plants being very ornamental with leaves about a yard long. Here we find it does best in fairly rich holding loam.

Hedysarum multijugum.—This is a very meritorious flowering shrub from the vast Leguminosæ family. It is of recent introduction and when better known will surely be much in request. The colour of the flowers is of a beautiful rich magenta, and the light airy elegance of its foliage reminds one very much of the Indigofera.

Golden mop-headed Acacia.—All who admire the compact growth of the Robinia inermis will find in this golden form a very valuable addition to our already numerous variety of golden-folaged plants. If plenty of sunlight is afforded, the beautiful golden colour is well developed, and this can be further increased by good hard pruning each year.

Ligustrum japonicum macrophyllum aureum.—This is a grand variegated form of the Japanese Privet. The leaves are quite as large and are finely variegated, and are broadly margined with a beautiful golden yellow; the centre of the leaf is of a pea-green colour. A very striking effect would be produced by employing this shrub largely among deep green subjects. It is of a free vigorous habit.—PHILOMEL.

Hydrangea quercifolia.—Of the plants now in bloom in shrubberies this bush is conspicuous by its large cymes of showy flowers. The heads are pyramidal in outline. The sterile flowers are quite drooping and entirely hide the fertile ones on the inside. On first opening, the sterile flowers are rich creamy white, changing eventually to a pinkish tinge. The shrub in a young state has a rather straggling, or one-sided appearance, but when it grows older it becomes a compact and neat bush. Perhaps the reason it is not more abundant in collections is the difficulty of propagation. It is exceedingly slow in rooting from cuttings at any season of the year.—*Garden and Forest.*

Effect of soil on growth of trees.—I have read with much interest Canon Elizaire's excellent paper on the great frost, and I can follow him in what he says, but the quotation from Baron Humboldt (see p. 100) is an exception to all the rest. It runs thus: "In general it is remarked by cultivators that the trees which grow in fertile soil are less delicate and consequently are less affected by greater changes in the temperature than those which grow in land that affords but little nutrient." This puzzles me very much, and is quite contrary to the instruction I have received and to my own experience as well. I have been for a long time accustomed to believe that a tree which is grown in poor soil makes slow, short, and sturdy growth, while another specimen of the same sort which is well fed is likely to indulge in long and weakly growth, and lays itself open to attack from the first violent frost or burning heat which may occur. I should very much like to know which of these two views is correct, as a great deal may follow from it. A friend who takes much interest in these things has remarked to me just now that it is not true to say that there is a great likeness between animal life and plant life in this respect. He justly observes that if a man shot out new arms and new legs when he is highly fed, he would then, and then only, be on the same plane with a tree

which makes great shoots and exposes itself to great trouble when its larder is over good. No doubt "feed with me good convenient wine" is applicable both to men and to trees, but the question in many cases really is to find out in what this does consist, and I fancy that an underfed tree will stand adversity vastly better than a man or a woman who lacks a generous diet. A close observer of these things was talking to me on this very subject a short time ago, and he holds the opinion I have expressed. This induces me to ask for more information about a matter which is not yet clear to me at all.—H. EBWANE.

Osmanthus equifolius.—The illustration on page 86 of Osmanthus myrtifolius shows what a beautiful evergreen shrub it is, and they all well merit what is therein said in their favour; while, after such a season as we have experienced, O. aquifolius, at least, may furnish us with another autumn feature, for, in 1893, when the summer was much in the way of the present one, some of the plants flowered with such unusual freedom that they presented a very uncommon appearance. The flowers are small and white, and borne in clusters in the axils of the leaves, while occasionally they are produced from the old wood. The blossoms are very fragrant and showy, yet they are very pleasing, and the time at which they are borne (the latter part of the autumn) makes them still more appreciated. Another feature is their agreeable fragrance, which is in the way of, but not to the same extent as that of the blossoms of Osmanthus fragrans, better known in gardens by the generic name of Olea. The form of Osmanthus alluded to on the above-mentioned page, under the name of purpurascens, is undoubtedly one of the finest low-growing evergreen shrubs that we possess.—T.

DESFONTAINEA SPINOSA.
WHEN in flower this Chilian shrub is sure to attract attention, particularly among those with but a limited knowledge of plants, as in all particular save that of blossoms it mimics a small sturdy-growing Holly, and when these features are supplemented by brilliantly-coloured tubular-shaped blooms it proves a puzzle to many. The flowers are drooping, nearly a couple of inches long, and of a thick wax-like texture, their colour being scarlet and yellow, somewhat after the manner of a Blandfordia. This shrub is hardy in many localities, but, on the other hand, it is tender in some districts, and the severe frosts experienced during the early part of last year injured it greatly or killed it outright in places where it had stood out for years. It is, however, so attractive when in bloom as to well repay the protection of a greenhouse or conservatory where it can be set down to its heart's content, and its other desirable qualities is that of continuing to flower for a lengthened period, as it will often keep up a succession of bloom from July till autumn is well advanced. No special treatment is required, as it will thrive in ordinary potting compost, but prefers a larger amount of loam in the soil than many plants do. When grown in pots and required for flowering under glass, it may be plunged out of doors in the spring when all danger from severe frosts is over, and allowed to remain there till the blossoms make their appearance, when the plants may be removed into the greenhouse and wintered in the coolest part thereof, to be plunged outside again in the spring. Though treatment such as this will yield satisfactory results where the plants are not hardy outside, they are never so striking as under more natural conditions, for, as a rule, when planted out doors the foliage is richer tinted than when confined in pots. For furnishing low walls it is also very desirable. Propagation is carried out chiefly by means of cuttings, which are not difficult to root, though, as a rule, they stand some time before they strike. The summer is a good time to take the cuttings, and if then put into pots of sandy soil and placed in a cold frame kept close and shaded, they may after a time be given a little heat, which will accelerate the produc-

tion of roots. This Desfontainea, which is the only member of the genus, is a native of the Andes, from Chili to New Grenada, and was introduced thereto by William Lobb, who was travelling for Messrs. Veitch. It was a remarkably successful journey, for among other introductions at that time may be mentioned Lapageria rosea, Escallonia macrantha, Embothrium coccineum, and Philesia buxifolia, as well as one more valuable than any of these, viz., Berberis Darwinii. The world is now too much ransacked for a collector to acquire such a bevy of good things on a single journey. T.

Eucryphia pinnatifolia.—In many places this beautiful Chilian shrub seems flowering during the present season with unusual freedom, and besides the fact that the blossoms are not produced till the second half of the summer, they are quite distinct from anything else in flower. It is usually regarded as a hardy shrub, but in many districts this statement needs a certain amount of qualifying, as it is frequently injured by the frost. It forms a rather upright, freely-branched bush, clothed with pinnate leaves of a very deep green tint, while the flowers, which are from 2½ inches to 3 inches in diameter, remind one very much of a pure white St. John's Wort, the mass of prominent stamens being arranged very much as in Hypericum. In some places this Eucryphia does not grow very kindly, the conditions most favourable to it being compost consisting of a good amount of peat and a spot where the plants will not suffer from want of water during the summer. This Eucryphia is still far from a common shrub, as, in addition to being none too hardy, it is not at all an easy subject to propagate, the most successful method being by means of layers. Not only do they take some time to root, but it is necessary to have a good-sized plant before it can be layered.—H. P.

Abelia rupestris.—The blooms of this Chinese species of Abelia are not nearly as showy as those of its Mexican relative—A. floribunda—which, however, requires the protection of a greenhouse, while A. rupestris is hardy. It is an extremely neat and pretty little shrub, which usually forms a low, much-branched bush, furnished with oblong-shaped, small, deep green, glossy leaves and slender drooping shoots, towards the points of which the flowers are produced in clusters. The blooms are tubular in shape, about an inch long, and pale pink in colour. They are also agreeably scented. A prominent feature, and most desirable one in connection with this Abelia, is the fact that it will bloom for months together, and that, too, after most shrubs are past, that is to say, from June onwards. It is not subject to plants which are subject to blight or powdery mildew, and does not require a sheltered position such as that where it will have to contend with vigorous-growing subjects but, it needs rather a choice spot and it is very effective on rockwork, as its somewhat drooping shoots are seen to great advantage overhanging a rocky ledge, or in a similar position, while it is also a first-rate subject for clothing low walls, and in such a spot it will bloom profusely. It is one of the many beautiful shrubs introduced from China by Robert Fortune, and is in no way a particular subject if the soil is kept fairly moist during the summer. Cuttings of the full-ripened shoots are not at all difficult to root with ordinary treatment.—T.

The European Box Thorn (Lycium europaeum).—In some districts, especially where the soil is shallow and of a sandy or gravelly nature, a great many trees and shrubs have suffered terribly from the long-continued drought, and looking over a garden of this kind recently where most of the shrubs had a very woebegone appearance, I was particularly struck with a grand mass of the common Box Thorn rambling over an old fence and growing in little else but gravel. The foliage was as bright and green as possible, and for this reason alone it offered a direct contrast to all of its associates, while in addition the entire mass was profusely laden with blossoms, which

when first expanded are of a bright violet colour, but before dropping the change to almost a buff tint. This colour had been following for a considerable time, and judging by the number of buds still remaining it will yet continue for a long while. A few of the earlier berries were beginning to change colour, and before long they will be very conspicuous by reason of their bright red tint. Many such things as this are apt to be overlooked because they are common, yet such a plant as this *Lycium* is infinitely more pleasing than other and choicer subjects that can barely exist. For exposed portions of the larger arrangements of rockwork, for furnishing dry, sloping banks, or for similar purposes, this *Lycium* is well suited, while in any selection of plants for clothing arbours or bowers this Box Thorn must have a place assigned it. It is a native of the south of Europe and was introduced into this country in 1730.—T.

SHORT NOTES.—TREES AND SHRUBS.

The Purple Birch.—This is one of the most lovely and delicious trees. The foliage is of a rather pale purple colour, but when the tree develops a strong growth the bark becomes a rich reddish-brown and striking. It should be extensively planted where lightness and elegance are appreciated.

Rhamnus inerit nus.—All lovers of large, bold-leaved shrubs will find in the above a real masterpiece. The leaves remind one of those of the Spanish Chestnut. They are fully 8 inches long and 2½ inches wide, and are of a dark green colour. It forms a fine bushy shrub, and should be afforded ample room for development.

The Weeping Walnut.—A refreshing umbrella-shaped tree well adapted for planting on a lawn. Its liability to break in a gale of wind makes it a charming addition to our already wealthy variety of hardy tessellated shrubs; and, of course, its highly aromatic leaves would be very welcome to all lovers of sweet perfumes.

Weeping Pyracantha.—Of course this plant should be grown in standard form, and if dotted among evergreen shrubs of rather dwarf nature, the effect is fine. The shoots are freely produced, and they have rather a spreading nature, not exactly pendulous. It quickly forms a good head, and its shiny, dark green foliage looks very refreshing when brought into contrast with golden Yews and shrubs of a similar character.

Robinia angustifolia elegans.—This is a most elegant deciduous tree, with grass-green leaves of a compound character. The individual leaves are about three-quarters of an inch long and a quarter of an inch wide, and are produced in great abundance, giving the tree an exceedingly dense and compact appearance. I can confidently recommend this variety as a suitable specimen for any position in which its beauty can be suitably displayed. Standard or pyramidal form suits it admirably.

ORCHIDS.

SACCOLABIUMS.

ALTHOUGH one or two kinds in this noble genus may be described as rather weedy plants, the majority are really magnificent Orchids, possessing an elegance and grace not to be found in many that are more sought after, and consequently higher in price. Even when not in bloom the plants themselves are very ornamental, that is to say, if they have been carefully grown and kept free of insects. Nor is this at all difficult, for I have frequently seen very fine examples of *S. Blumei*, *S. guttatum*, and even *S. giganteum* growing among ordinary stove plants. Most of the known kinds come from India and the adjacent islands, and they are all true epiphytes. Heat in plenty and moisture, with judicious treatment of the roots, will therefore be necessary to grow them well. Plenty of light too without scorching sun is a great help in keeping the plants hard and healthy, consolidating their leafy system and

preventing the foliage from being attacked by spot. The large specimen plants, several feet in height and as much through them, do not seem to find so many admirers as formerly—at all events they are not so often seen. Noble objects they were, and it is a pity that present day growers will not allow them a place. Still it is something that the species are grown, for not so many years since it seemed that they were going out of cultivation altogether. The style of plant now most often seen is about 9 inches or a foot high, such plants as may be reared in medium-sized wood baskets suspended near the roof. These usually produce about two or three spikes of bloom, according whether the species is a free-blooming kind or the reverse, and those kinds having pendent spikes look very charming when grown this way. Clean, freshly-picked Sphagnum is the best of all material for the compost, and nothing else need be added but crocks and charcoal in plenty and in suitable sizes according to that of the baskets. Root action commences more or less early in the spring, and whatever disturbance is needed should be seen to before this is far advanced. Old established pieces with roots entwined about the rods of the basket are the worst to transplant, and a deal of care is necessary, otherwise they will be seriously injured. Turning it completely out of the basket is of course out of the question, any attempt at this being assuredly followed by lacerated and bruised roots. If the wires can be pulled out from the corners, the baskets may be pulled apart piece-meal, removing a chance root from the rods with thehaft of a budding knife, avoiding snapping them in the process. But where the roots are plentiful this cannot be done, and the rods must be cut through at the corners, placing the pieces intact in the new basket, first removing all decayed wood, as this is likely to breed fungus in the Moss. Where the baskets are very small and the plants healthy and well rooted, it may be advisable to place them entire into the new ones, first, of course, removing all sour and decayed parts of root or compost. By this means many of the air roots will be brought under the influence of the compost, and freer ramification of these and the emission of fresh ones into the atmosphere will be the result, to the ultimate benefit of the plant. In every case where such strong growers as those referred to are under treatment a fairly good shift may be given, as by means of annual top-dressing afterwards they may be kept in health for a good many years without again being disturbed. Some of the smaller-growing kinds that produce erect, instead of pendent flower-spikes—such, for instance, as *S. amplifolium*, *S. curvifolium*, or *S. Hendersonianum*—are, I consider, much safer in small, well-drained pots or pans than in baskets, these having less capacity in comparison with their width and depth, and the roots like the hard, porous earthenware. If they are so grown they also must be kept well up to the light, this being just as needful to them as to their larger-growing congeners. If not convenient to suspend them, give them a place on a light shelf or in some similar position, but if they can be suspended quite clear of each other they will one and all be greatly the better for it. There is not, in fact, a single species of either *Saccolabium* or Aerides with which I am acquainted that is not greatly the better for being hung from the roof, as long as they are of a suitable size. Large specimens must of necessity be stood on the central stage, their heads about a yard away from the glass if possible, and no other plants hung between them and the light. In growing a collection of any size it will be

noticed that the different species, and sometimes even the different plants of the same species, go to rest at different times, the roots of course being the index to their condition. As this is so, no time can be mentioned as to when the water supply to the roots will have to be lessened, but the latter must be closely watched in autumn, for too much water after they have done growing is a mistake. They must not be kept absolutely dry at any time; just enough to keep the foliage right, and a nice mild temperature in the house wherein they are grown. Among those most generally grown are

SACCOLABIUM AMPULLACEUM, a dwarf habited plant not usually more than 1 foot high, with stiff, dark green leaves and erect racemes of flower, produced in early summer. The flowers are wholly a pretty rose colour, and they last nearly a month in good condition. This kind must not be overdone with compost and likes a light position. It is a native of Sikkim and other parts of India, and was introduced in 1839.

S. BELLINUM is a charming species, introduced about ten years ago from Burmals by Messrs. Low. It does not produce the cylindrical racemes of small flowers usual in the genus, these occurring a few together and being individually larger than most kinds. The sepals and petals are greenish, with markings of chocolate-brown; the lip white, with the centre yellow, and having a cavity at the base, white with light purple spots.

S. BLUMEI is one of the best of all, and a splendid species that no collection should lack. It is a rather large grower, erect in habit, and produces deeply-flowered pendent racemes, these being simple, but sometimes branched, and nearly 2 feet long. The colour of the flowers is a pale white, with many spots of magenta-purple. It is a somewhat variable kind, the forms including a pure white one that is much prized and very rare.

S. COLESTEI is a dwarf growing kind with bright green leaves and close racemes of flower from 6 inches to nearly a foot in length. The blossoms are small, whitish in ground colour, with the lip and the tips of the segments pale blue. The present is its flowering season; being a native of Siam, it requires plenty of heat and moisture.

S. CHANTHEUM is a fine plant when well grown, but requires very careful winter treatment. It is best reared in baskets or pans, and must have ample heat all the year round, plenty of water whilst the growth is active, and just enough in winter to keep the plant going and maintain the flowers. These occur on almost horizontal racemes and are closely set. The sepals and petals are whitish, with rose-coloured spots, and the lip is mauve, with deep purple. *S. violaceum* and *Harrisonianum* are closely related to this, the former having mauve, the latter white blossoms.

S. HENDERSONIANUM is a native of Borneo, a dwarf growing and very distinct species of a peculiar habit of growth, the stem growing sometimes erect, at others horizontal. The flower-spikes are erect, each blossom about three-quarters of an inch across, bright rose with a white lip. It is a pretty and interesting kind, and first flowered in England in 1874.

Dendrobium Dearei.—This is one of the most generally useful of all Dendrobiums, and, though often flowering earlier, it is at this time that its chaste white blossoms seem more than ever useful. These are produced at the apex of the newly-formed bulb and occur on many-flowered spreading racemes. Each blossom is about 2½ inches across, the segments all pure white, with the exception of a greenish blotch on the lip. *D. Dearei* is a native of the Philippine Islands, and consequently must have a strong and moist heat while growing, and as the bulbs are long and closely leaved this takes a considerable time. From the time they begin to grow until the bulbs are quite finished this moist heat is essential, and when the blossoms are past the plants may be hung in a

light sunny position in order to harden the growth thoroughly, for, though flowering on the new shoots, this is quite as necessary as with those that bloom on the older bulbs in spring. The roots of D. Dearei are fairly plentiful and strong, but it is not a species that should be over-burdened with compost. In choosing the pots or pans then, any with a margin of about 1½ inches all the way round will be large enough, and in these the plants must be firmly fixed. Care is necessary in watering at first, and until the new shoots begin to emit roots, but after this occurs they are safe unless really over-watered. Being so valuable for cutting, this kind has become very popular; it was introduced in 1882.

STOVE AND GREENHOUSE.

HYACINTHS AND OTHER SPRING-FLOWERING BULBS IN POTS.*

The spring-flowering bulbs that will be noted in the following cultural remarks may be termed everybody's flowers, because they take up but little room, and therefore persons with the smallest amount of glass accommodation may grow them equally as well as those with unlimited greenhouses. Nor is fire-heat absolutely essential, except for early forcing, so that even the cottager with the light given by an ordinary window may be successful in cultivation. Not the least important of spring flowers is the Hyacinth, and in this, as with the small delphiniums, one must be provided with a stock of clean pots. I would use old ones in preference to those quite new, as the latter (unless soaked) are apt to dry the earth unduly. Forty-eights, or 4½-inch pots are the most generally useful. I have tried Hyacinths for exhibition in a size larger, but have had equally fine spikes of bloom in pots the size named; it is therefore wise for the sake of economy alone to choose the smaller. The soil recommended is composed of rotten turf of a fibry character, broken up small, manure, preferably cow manure, dried, so that it may be passed through a sieve, coarse sand or road grit, the loam being in slightly the larger proportion. In this compost water will pass through freely, and a rich root-run is also provided. One might imagine that, as Hyacinths will grow in water alone, it matters little about having a soil that is porous; but the fact is, these bulbs require some care as to the quantity of moisture given when cultivated in pots.

Use the potting earth in an even state—neither sodden with wet nor dusty dry. It is advisable to mix the compost a considerable time before required, so that that desirable condition may be obtained. In potting, place one good-sized crock over each pot, then the handful of the rougher portion of soil; afterwards fill the pot and press down the earth moderately firm, then scoop out a hole with the finger in which to place the bulb. This latter item is of some importance, because, if we press the bulb and soil down together, that portion under the bulb becomes so hardened that the roots, instead of wandering in the earth, will raise the bulb upwards, and perhaps finally push it out of the pot entirely. Take care then to have the soil loose for the bulb to rest on, and I may mention that about one half of the bulb should be buried. A finish is made by pressing the soil down evenly in the margin between bulb and pot. When the compost is in the condition before-mentioned, watering immediately after potting is not required, but if the earth be at all dry one good soaking should be given. Stand the pots close together in any available space that is open, that is to say free from the drip of trees. Put them on a sound bottom of ashes likely to prevent worms from entering the pots, then place an inverted pot of small size over each bulb. This detail is per-

naps not essential, but it is done with the object of keeping subsequent growth clean; the covering material is apt to find its way into the centre of the new leaves and may rot the flower spike. We next bury the pots, bulbs and all, with coco fibre to a depth of 4 inches. The material named is light and clean; sand, however, will answer the same purpose, but if possible, do not cover over ashes; the sulphurous essence has sometimes done mischief below. I would put Hyacinths in September; if left much later roots will have started growth, and the bulbs are likely to deteriorate thereby. They may be left forgotten, I might say—for about two months. I would at the same time advise that a covering of glass—in fact anything—be provided in case of more than usual rainfall to guard against the earth in the pots becoming soddened. The object of placing the bulbs under ground, as it were, is to get them well rooted before top growth takes place to any extent. This item, to my mind, is the most important of all. Without a good supply of roots there is not anything to force the spike of bloom out of its bulb. The bloom is placed there by the previous season's growth, mostly in Holland, and we cannot alter its form, but by good cultivation we may develop each individual bell, and in the end obtain a spike of bloom apparently double the ordinary size. Extra large bulbs are not indeed desirable in producing fine spikes of flower; in fact, very large ones usually give more than one spike, which, for purposes of show at least, would be useless. Choose, therefore, medium-sized, firm, well-ripened bulbs to obtain the best Hyacinths.

Some time in November then we should examine the plants. Roots will be found plentiful, in some cases growing through the base at the bottom of the pots, while the top growth will be about an inch high and the flower spikes visible. Such as these may be taken from their covering and stood in a cool frame or greenhouse where plenty of air can be admitted. For a few days do not remove the pots which were placed over the bulbs; the change from darkness to light must be gradual. Hyacinths to be well grown must grow slowly, otherwise the leaves will advance faster than the blooms; the latter, too, will be wanting in substance, points against them in competition. Of course, such matter are not so important generally; most of us like to lengthen the period of flowering by gently forcing a few—Hyacinths will bear this—and retarding others.

Keep the plants well up to the glass at all times and give air abundantly. Do not water much in dull weather. I would, in fact, keep the soil on the dry side until the blooms push well up out of the bulb. Use rain water slightly warmed. After the spikes of bloom show colour growth is very rapid, and it is then we must develop them to their utmost. By this time we should have abundance of roots; all the stimulants necessary may then be given. Soot water is excellent, but I have not myself used anything to equal sulphate of ammonia. This powerful salt should be given at the rate of an ounce to two gallons of water. Use it at every watering, which may now be often, as at the final period it is not easy to over-do Hyacinths with moisture at the roots. It is well to shade the flowers from strong sunshine, or the lower portion of the spike may suffer before the top begins.

Hyacinths are used for pots the second year, but after flowering they may be again placed in the open and duly watered until the leaves die down. By planting the bulbs in the ground and allowing them to remain, we may, however, reap a rich harvest of nice useful spikes of bloom for a considerable number of years. I will name a few of the best varieties: *La Grandosse* is a very fine white sort, with extra large bells. *Mont Blanc* bears a splendid spike. *Alba maxima* is a third good white. In reds there are few better than *Lord Macaulay* and *Von Schiller*. *Roi des Belges* is a fine red, but generally produces more than one spike. *Vuurbaan* is an extra fine rich red. *Fabiola* is a good variety of a rosy red shade. *Koh-i-nor* (semi-double) is also extra fine. An-

other red of a salmon shade is *Moreno*, one of the handsomest of all *Hyacinths*. *Gigantea* is a rosy white with small bells, and *Prinses* produces a grand spike of a bluish-red shade. *Czar Peter* and *Leopold* both bear fine kinds of a light blue shade. *King of the Blues* is about the dark of a dark blue. Another good blue is *Grand Maitre*. *Ida* is the best yellow. *Distinction*, *Magnificent* and *King of the Blacks* are all handsome dark-coloured *Hyacinths*, but generally the spikes of bloom are small.

EARLY TULIPS, like *Hyacinths*, delight in a cool, steady growth. Any attempt to force them, except a few of the smaller kinds like the different coloured *Duc Van Thols*, means failure. *Tulips* like plenty of room for the roots; they should therefore have larger pots than are required for most bulbs. I would use nothing smaller than 6-inch ones. These may contain four bulbs. Use a compost similar to that named for *Hyacinths*, but with less of manure and grit. When potting, it is well to choose bulbs about equal in size. That is to say, all the larger ones should be potted together, and those smaller be placed similarly, then an even lot of blooms may be obtained. The rule of making a hole for each bulb, previously noted, is also applicable to *Tulips*, and they should be covered for the purpose of forcing root growth before leaves. The great number of the roots that *Tulip* bulbs send out point to the fact that water must not be given too freely, and when coming into bloom abundant daily supplies become necessary. I favour manure stimulant for *Tulips*. Liquid cow manure is capital, but a watering or two with sulphate of ammonia when the blossoms are open will aid in giving colour and substance. Light, air, a cool temperature, and abundance of moisture at the roots are the chief elements in the culture of *Tulips* in pots. A few extra good varieties are as follows: *Vermilion Brilliant*, scarlet; *Joost Van Vondel*, dark crimson, sometimes flamed white. A white sort (presumably a sport) of the same name is the finest white to be had. The next best white is *Pottemaker*. *Ophir d'Or*, yellow; *Keizerkroon*, red and yellow; *Proserpine*, rose-crimson; *Duchesse de Parme*, orange-red and yellow; *Van der Neer*, purple; *Tournesol*, red and yellow; *La Candeur*, white; *Rex Rubromus*, scarlet, are good double sorts, but personally I much prefer the single kinds.

NARCISSI are placed next in order. They are now-a-days more popular perhaps than any spring-flowering bulbs, not, however, as pot plants, but grown in the open border. I have tried a fair number of the so-called distinct *Narcissi*—it would hardly be possible to try all—and the sorts named below are excellent for pot culture. By this means we may not only obtain nice subjects in themselves for the greenhouse decoration, but by the aid of glass we are able to anticipate the outdoor ones and thus lengthen the flowering season. *Narcissi* are perfect hardy and generally will not stand a freezing heat. I would put the bulbs in pure loam and grit, and they should be potted firmly. They are better not plunged in the dark, but may be stood under some kind of glass structure to ward off excessive rain. A shelf near the glass of a greenhouse where frost is just kept out is an excellent position for *Narcissi* during winter, and here they may remain until the blooms are well advanced. A frame in the open border, if protected in severe weather, is an equally good place for their gradual growth, and the needful supply of soft water must not be neglected. Nor should they remain in a close atmosphere whenever the weather is favourable to the glass being open. *Bulbocodium* (*Hoop Petticoat*) is a pretty sort for pots. It should be planted thickly—that is, six or seven bulbs in a 6-inch pot. *Golden Spur*, about four bulbs in a pot similar in size, makes a first-rate specimen. It will force well. *Emperor*, large yellow trumpet; *Empress*, yellow and white; *Sir Watkin*, yellow; *Horsfieldi*, yellow and white; these are among the noblest of *Daffodils* and do well in pots. *Princes*, yellow, and *Grandes*, bicolor, are not unlike the above-named and are cheaper. *Barri*

* Read before the members of the Woking Gardeners' and Amateurs' Association, July 16, 1896.

conspicuous is a very rich-coloured variety. All except the last may have a 6-inch pot for three bulbs. Among doubles, Sulphur Phoenix and Orange Phoenix are grand; five bulbs in a pot is a good number for these. Van Sion is a fine yellow double sort. Then there are the Polyanthus Narcissi, which bear bunches of small sweetly-scented blossoms; they make handsome pot plants. Grand Monarque, white lily cup, somewhat late, is extra good; Gloriosa, orange and white; Newton, Jaume Suprême, Queen of the Netherlands, Her Majesty, are capital sorts. These mostly have large bulbs; three in a pot will therefore be sufficient; they produce several spikes each and are very showy. There is this about Narcissi: When one has once purchased a stock they may be readily increased by planting them in the open border. Then there are Lilies and Tuberoses, which I will not deal with in this short paper; but

FREESIAS are charming, early-flowering bulbs which may be grown by anyone with a bit of glass. The bulbs are tiny, not expensive, and of easy growth. Well-grown specimens are exceedingly pretty, and the blossoms are nicely scented. This bulb will grow in almost any soil, but a compost rich in leaf-mould and sand is one to be recommended. Put the bulbs in autumn, about seven in a 5-inch pot, and ten in the 6-inch size; slightly bury the bulbs, then stand them in a glass frame. They require no covering—I mean, the pots should not be plunged—but need protection during severe weather. The best position for them, perhaps, after growth has started is the greenhouse shelf; here they may remain up to the time of flowering. All that is necessary is to give plenty of water, air in abundance, and a mild stimulant when the bloom is opening; the branches may be tied with neat sticks. Unlike Hyacinths, for instance, these Freesias do not lose in value after flowering; they increase rapidly, so that when once a stock is procured there is no need to buy a second supply. After the blooms are past allow the growth to wither gradually, and the bulbs may then be taken from the earth, stored, and again potted the following autumn.

Gladiolus Colvillei alba The Bride is a favourite flower of mine, but one can scarcely term it spring-flowering. There is, however, no difficulty in getting the blooms open by Whitsuntide, that is, if an early start be made. Plant about nine bulbs in a 6-inch pot and treat in the manner advised for Freesias; by these means we may obtain a wealth of lovely white blossoms. The bulbs of this plant increase easily, and they may either be potted annually or planted in the open garden in a very dry, warm situation, in which case protection is necessary during winter.

H. S.

Lilies, to two of which first-class certificates were awarded.

Of indoor plants, the Caladiums, consisting of the finest kinds in the best possible condition, came from Chelsea, and formed a prominent feature. Miscellaneous groups were also present, but not of special note. Orchids were, however, much finer than usual at this season, August not being one of the best months for a varied display. A few grand forms of Cattleya were shown, notably one from The Dell collection. A few capital hybrids were likewise noted from various sources.

Fruit consisted chiefly of early kinds of Apples and Pears from Maidstone, well coloured and as well advanced in quality. Plums from the Langley nurseries of the Messrs. Veitch were also specially noteworthy, bearing evidence of the forwardness of the season. These included the best dessert kinds as well as culinary. Other fruits were not numerous, not even Melons on this occasion.

The best improvement was to be noted on this and at the previous meeting in the grouping together of the most difficult plants. This is as it should be, instead of the boxes scattered amongst various groups through the hall. This arrangement, it is to be hoped, will be persevered in at every meeting. Fruits also should be similarly treated, so that anyone who is desirous of inspecting the various novelties may have better facilities for doing so and with less searching out.

Orchid Committee.

Orchids were not in abundance, but some choice varieties were exhibited.

The following awards were made:—

First class certificate was adjudged for Cattleya Hardiana splendens (Clarke's variety), a fine variety of the now somewhat plentiful natural hybrid supposed to be a cross between Cattleya Dowiana aurea and C. gigas. The sepals and petals are deep rose, lip velvety-crimson in front, bright yellow in the centre, lined with yellow and crimson in the throat; the plant bore a raceme of four flowers. From Baron Schroeder.

The following received awards of merit:—

LELIO-CATTLEYA ELEGANS VAR. CANVENDEURGHANA.—An extraordinarily large flowered variety, sepals and petals pale rose-tinted, lip very broad, rose-purple in front shading to white at the base. A fine cut spike of nine flowers was exhibited. From Sir F. Wigan, Clare Laws, East Sheen.

LELIO-CATTLEYA SERAPH.—To Mr. C. J. Ingleton, for Lelio-Cattleya Seraph, a hybrid said to be the result of crossing L.-C. elegans and Cattleya citrina, but no trace of the latter parent could be observed except, perhaps, the yellow of the sepals and petals, these latter being sulphur-yellow, the lip being rose-purple in front shading to white at the base and throat.

CYPRIPEDIUM EXCELSIOR VAR. MARS.—To Messrs. F. Sander and Co. for Cypripedium Excelsior var. Mars. This is the reverse cross of C. Excelsior (Rothschildianum × Harrisianum). It is very distinct from that variety, and considered to be superior to it in its darker markings and larger flowers, but as the cross had been previously registered, the committee decided to retain the original name, giving it the variety name as being distinct. The dorsal pale green, lined with dark brown, petal pale green shading to brown-purple at the tips, the whole heavily spotted with dark brown; lip dark brown, shading to green at the base.

A botanical certificate was awarded for Masdevallia anchorifera, one of the dwarf-growing small-flowered section. The flowers are greenish-yellow lined and thickly spotted with dark brown. From Mr. R. J. Measures.

A bronze Banksian medal was awarded to Mr. R. J. Measures, Cambridge Lodge, Flodden Road, S.E., for a small group of Orchids, amongst which were some fine varieties of Cattleya gigas, a fine form with two flowers of Cattleya aurea, a deep cypripedium Lachua, a bold flower with deeply spotted petals, a cross between C. ciliolare and C. superbiens; Phalaenopsis violacea, a dark sepal and petalled variety; a fine plant with seven flowers

of Lelia monophylla, remarkable for its orange-scarlet flowers; Cypripedium leucostochilum, Cambridge Lodge variety, one of the most distinct varieties we have seen, the backs of the petals and sepals being spotted with dark brown on a white ground, and various rare Masdevallias, both of hybrids and species. Baron Schroeder sent Cattleya Hardiana, Wrigley's variety, a pale form previously certificated, and two fine varieties of Lelio-Cattleya elegans Turneri. Mr. E. Aeshworth, Harefield Hall, sent an extraordinarily fine form of Cattleya Gaskelliana alba, the flower being of the purest white, while the sepals, petals, and lip were of fine form and substance. Cattleya Kienensis also came from the same exhibitor, but had previously been certificated. Mr. Sington, Chapel-en-le-Frieth, sent Cypripedium Singtonianum (vexillarium × barbatum Warneri); the flower, as might be expected from such a cross, could scarcely be discerned from forms of C. barbatum. Sir W. Marriott sent Cattleya Marriottiana and hybrid, the result of crossing C. Eldorado and C. gigas; sepals and petal pale rose, lip crimson in the white in the centre, with a yellow disc and throat; the plant bore a spike of nine flowers. Sir F. Wigan sent a fine cut spike with ten flowers of L. elegans Turneri. Dr. Sims sent cut spikes of Odontoglossum apodphyllum and a distinct form of Lycaste species in way of L. plana. Mr. R. Young, Liverpool, sent cut spikes of Lelio-Cattleya elegans Turneri and a fine form of Cattleya velutina. Mr. Milton, Bristol, sent a fine spike of Cattleya Lodigessii with extra large flowers. Mr. P. Ralli, Ashton Park, sent two cut spikes of Sobralia Lowii, a dwarf growing variety, with small deep rose-purple flowers and a fine spotted variety of Odontoglossum apodphyllum.

Messrs. F. Sander and Co. sent a small group; prominent in this was a fine form of L.-C. elegans Turneri with five flowers; Cattleya Schofieldiana, a yellow ground variety, thickly spotted with brown; a fine plant of the lovely Phaius Humboldtii, with sixteen flowers on the spike; Cattleya Eldorado Wallisii, with its pure white flowers; Sobralia xantholeuca and its paler variety, S. leucoxantha, and a good form of Cattleya gigas.

Floral Committee.

First-class certificates were on this occasion awarded as follows:—

BAMBUSA PALMATA.—An extrafine and decidedly distinct species of sturdy and compact growth, the leaves being quite 3 inches in width and some 9 inches or more in length. It comes nearest perhaps to B. Metake, but it is much larger in its foliage, which is also of a brighter shade of green. From Messrs. J. Veitch and Sons, King's Road, Chelsea.

PHYLLOSTACHYS KUMASASANA, which, as compared with the foregoing, is even dwarfer and more compact, with a wiry-looking growth and small, oval-shaped leaves; the tendency towards a branching habit will make this a very compact plant, whilst both of these varieties will be admirably adapted for massing. From Messrs. J. Veitch and Sons.

NYMPHEA ROBINSONIANA, which is one of the more recently introduced hybrids of M. Latour-Majlis, and at the same time one of the most highly-coloured varieties in cultivation; the colour is a deep vivid crimson, somewhat lighter towards the edges of the petals, the substance, too, of which is excellent. The stamens are of a rich orange tint, thus contrasting well with the deep crimson. Fully developed flowers are quite 5 inches across, and this with more vigour will no doubt be increased. It is also a very floriferous variety. The leaves are of medium size, being spotted and splashed with dark reddish crimson. From Messrs. de Rothschild, Gunnersbury House, Acton.

NYMPHEA MARLIACEA CARNEA.—Another of the hybrids from the same source as the last, and one of great beauty, the flowers when fully developed being much larger than N. alba in every way; the petals are somewhat rounded at the tips as compared with other forms of N. Marliacea, being white towards the extremities and of a delicate

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 11.

THE meeting of Tuesday last was a very full and comprehensive one. Rarely in the month of August has a finer display been seen, it being all the more noteworthy when the prolonged drought is taken into consideration. Hardy flowers, bulbous and otherwise, were of specially good quality, notably the grand display of Gladioli from Langport, of which also two smaller exhibits were to be seen, these latter being composed chiefly of the Lemonei and Nanceanum hybrids. Dahlias also were staged, chiefly Cactus varieties, but it is yet a little too early to see them to the best possible advantage. Mixed exhibits of hardy flowers were numerous, making a good show. A most interesting and instructive group of Bamboos in the best and rarest of the hardy species and varieties came from Coombe Wood. These plants are evidently destined to become more increasingly popular, the proof of their hardiness being abundant. From Gunnersbury were sent some of the best kinds of coloured as well as white Water

THE GARDEN.

flesh colour towards the base; the stamens are orange-yellow. From Messrs. de Rothschild, Gunnersbury House.

Awards of merit were decided in favour of the following subjects:

GLADIOLUS JEAN DIBOWSKI (Lemoinei hybrid of the Nancanus section).—A fine variety with vermilion scarlet flowers feathered and spotted with creamy white. From Sir Trevor Lawrence and Messrs. J. Veitch and Sons.

GLADIOLUS DEUIL DE CARNOT (Lemoinei section).—A deep vinous crimson, shaded with maroon and a lighter feathering, a rich shade of colour. From Messrs. J. Veitch and Sons.

GLADIOLUS SENATEUR VOLLAND.—A most remarkable variety with flowers of a decided lavender-blue in two shades, with a white line through the petals and sulphur-coloured feathering; quite a novelty. From Messrs. J. Veitch and Sons.

GLADIOLUS EMILE AUGIER (Lemoinei hybrids).—Another noteworthy variety with pale primrose-yellow flowers and the feathering of an orange-red shade, very distinct. From Sir Trevor Lawrence.

GLADIOLUS PENN.—Deeper and brighter than G. brenchleyi in colour, feathered with purplish crimson, and the flowers of extra size. From Messrs. Kelway and Son.

GLADIOLUS CARLYLE.—A deep carmine colour, feathered and spotted with crimson on a light ground, of the Nancanus section to all appearance. From Messrs. Kelway and Son.

GLADIOLUS BAXTER.—A dark velvety purplish crimson, with darker flakes, very distinct. From Messrs. Kelway and Son.

SIDALCEA MALTAICA var. LISTERI, distinct in its colour, a soft shade of bluish pink, very attractive, and with good spikes. From Mr. Lister, Rothsay.

ABUTILON SILVER QUEEN.—A very dwarf variety with the foliage chiefly of a creamy white colour and but little trace of green, effective and distinct. From Mr. Sharp, Fareham.

CLEMATIS VITICELLA ALBA.—A white variety of this well-known species, to which it should prove a fitting companion. From Messrs. Paul and Son.

PENTSTEMON PRESIDENT CARNOT.—A distinct and showy variety of this popular flower, with very large expanded blossoms, the throat of which is white, the inner margin of the lobes light red, and the outside entirely of a darker red. From Messrs. Barr and Son.

STREPTOCARPUS MRS. HEAL (S. Veitch's hybrids x S. Wendlandii).—A remarkably fine cross in every respect and a valuable decorative plant; the leaf growth is quite intermediate, being entirely green on both sides, with no trace of the reddish purple as seen in S. Wendlandii. The stout spikes bear two or three flowers each, of extra size and substance, fully 2 inches across, and of a dark but bright purplish blue, with darker lines of purple and maroon. From Messrs. J. Veitch and Sons.

Perhaps the most striking, and certainly the most showy exhibit in this division was a superb collection of Gladioli from Messrs. Kelway, of Langport. The spikes were of great size, and the flowers in very fine condition and brilliantly coloured. The following varieties were especially notable: Chas. Wyndham, a deep rosy scarlet, splashed with purplish crimson, a remarkably large flower; Chopin, a beautiful light scarlet; Bicolor, reddish salmon and cream colour; Mr. Fowler, a pretty mixture of rose and pale yellow; Bias, a finely formed salmon pink, with the outer petals shading to scarlet; Somolina, a delicate salmon-pink, splashed with deeper tints; Flamboyant, a most gorgeous scarlet; Carlyle, a magnificent scarlet, with the lower petals shaded with white; Cassinus, a lovely mottled, rose-coloured variety; Disraeli, a splendid purple striped with white; and Haydn, a dark fine velvety maroon (awarded silver gilt flora medal). A pretty group of cut flowers was shown by Sir Westman Pearson, of Paddockhurst, Crawley. Noteworthy items were Carnation Raby Castle, Coreopsis

grandiflora, C. lanceolata, Linaria italica and Solidago multiflora (silver Banksian medal awarded). A large and nicely arranged collection of cut flowers came from Messrs. Cutbush, and included some good Carnations, excellent examples of several varieties of Helianthus, Buphthalmum speciosum, branches of the beautiful Fuchsia Riccartoni (flowering well), Francoa appendiculata and Gentiana asclepiades (silver Banksian medal awarded). Mr. Ware, of Tottenham, was also represented by a large and very fine collection of cut flowers, among which were Campanula pyramidalis, fine spikes of Veronica subsessilis, Helianthus Bouquet d'Or (a good double), a number of delicately-tinted Pentstemons, and a group of very fragrant Phloxes (silver gilt Banksian medal awarded). A similar collection was shown by Messrs. Barr and Son, comprising Phloxes in fine condition, some very beautiful Violas, Gladioli, Montbretia crocosmiaeflora aurea, Rudbeckia speciosa and some very fine varieties of Helianthus (award silver Banksian medal). From Messrs. Cheal and Sons, Crawley, came a group of early Dahlias and ornamental Crabs. The former included some really excellent blooms, among them Matchless, Gloriosa, Major Hoskins, Fusilier, Mary Hillier, Mrs. Kingsley Foster, a variety of good Cactus form, a beautiful terracotta colour, and Mrs. Gordon Sloane, also a good new Cactus. The Crabs, which were heavily fruited, included Dartmouth, Transcendent, Yellow Siberian, Red Siberian, John Downie, and Cheal's Scarlet, a new variety (bronze Banksian medal awarded). Messrs. Cannell and Sons sent a group of very fine Cockscombs, all sturdy dwarf plants, splendidly grown. The variety was almost endless, the colours exquisitely soft and pure, and varying from the palest pinks and yellows to the deepest shades of orange and red (silver Flora medal awarded).

A small, but very nice exhibit of cut flowers was put up by Messrs. Paul and Son, Cheshunt. Very charming was a collection of button-hole Roses, including some very good flowers of l'Idéal. A group of delightful Phloxes was noteworthy, also Canna Italia, a pretty scarlet and yellow variety, and C. Austria, a rich pure yellow (silver Banksian medal awarded).

Messrs. Veitch and Sons put up a small collection of Gladioli (Lemoinei's hybrids). The spikes were slightly past perfection, but still served to show the splendid colours obtainable. Some of the best were Deuil de Carnot, a very dark crimson; Sénateur Volland, nicely shaded purple; Rev. W. Wilks, a fine scarlet; and Sophie Buchner, a pale primrose and crimson. A magnificent group of Caladiums was staged by Messrs. Veitch and Sons. Every plant was in perfectly healthy condition, with large and well-coloured leaves. The arrangement was admirable. The varieties included Comte de Germany, Silver Cloud, Iris Rose, Orphée, Baron Adolph de Rothschild, Lord Penrhyn, Lord Derby, and Lady Merton. Of exceptional interest was a group of remarkably tall Bamboos, also shown by Messrs. Veitch and Sons. The most noteworthy varieties were B. palmata, a splendid broad-leaved plant; Phyllostachys kumasana, Arundinaria nitida, Phyllostachys aurea, P. sulphurea, and P. nigro-punctata. Messrs. Veitch also showed a basket of their Rhododendron multicolor Ruby, a fine flame-coloured flower; a basket of Begonia Princess Charles of Denmark, and a splendid new Streptocarpus, Mrs. Heaf, a fine large purple flower, very distinct (awarded collectively silver gilt Flora medal). A new Abutilon, Silver Queen, was shown by Mr. Sharp, of Fareham. The foliage is almost white.

Some good boxes of Spirea Anthony Waterer came from Mr. A. Waterer, Knap Hill. It is a good dark red. A collection of ten varieties of the new Water Lilies, including some of the best of M. Latour-Marliac's hybrids, was shown by Mr. Jas. Hudson, gardener to the Messrs. de Rothschild. The varieties shown were N. odorata exquisita, N. Marliacea Chromatella, N. Laydekeri, N. Marliacea rosea, N. Marliacea carnea, N. Robinsoniana, N. pygmaea belvelia, N. roseacea,

N. Mariacea albida, and of N. alba, the Swedish or Norwegian form. A somewhat heavy-looking group of plants was shown by Mr. J. Purnell, Streatham Hill, and consisted chiefly of Ferns, tuberous Begonias, Balsams, Petunias, &c. Messrs. Young and Robinson, Stevenage, Herts, were represented by a very curiously-staged group of cut flowers, comprising Begonias and Verbenas, arranged in flat masses and backed by festoons of Pansies and Plumbago. The style of arrangement is not to be recommended. It has no artistic merit and is not calculated to show off the flowers to advantage. A nice group of stove and greenhouse plants was shown by Mr. F. Reckitt, of Highgate, and comprised good specimens of Campanula pyramidalis, Lilium lancifolium album, and some well-grown Caladiums. A fine large plant of Cycas revoluta came from the same exhibitor (awarded silver Flora medal).

Fruit Committee.

The exhibits before this committee were fairly numerous. Some good samples of hardy fruit were staged. Several Melons were shown, but in most cases were wanting in flavour. The prizes offered by Messrs. J. Veitch and Sons, Chelsea, for fruit of good flavour were not very keenly contested.

An award of merit was granted to Messrs. Bunnard and Co., of Maidstone, for a dish of Apples, a well-coloured specimen, named Cardinal. An award of merit was also granted to the same firm for a dessert Pear, Asparie Ancourt. An award of merit was awarded to a scarlet-flesh Melon named Harris' Favourite, exhibited by Mr. Philip Crowley, Croydon. A very good collection of Apples and Pears, numbering forty dishes, was exhibited by Messrs. Bunnard and Co., Maidstone. Amongst the exhibits were good samples of Williams' Bon Chrétien, Jargonelle, Beacon, Asparie Ancourt, and a market variety of Pear named Lawson, of fair size and good appearance. Apples included dessert and kitchen varieties, such as Cardinal, Beauty of Bath, Lord Suffolk, Stirling Castle, Duchess of Oldenburg and others. The fruits on the whole were clean and well coloured and merited the award—a silver Banksian medal.

Messrs. J. Veitch and Sons staged a collection of fruit, which included twenty-two dishes of Plums gathered from pyramid trees in the open. The most noticeable were De Montfort, a large early Plum, Belle du Louvain, Early Transparent Gage, Angelina, Burdett, July and Early Green Gage, and a dish of early Damsons. Two dishes of Dessert Pears, a dish of Negro Largo Figs, and a very good dish of Morello Cherries complete the collection (silver Banksian medal). Melons were exhibited by Mr. Philip Crowley, Croydon; Mr. G. Willard, Holly Lodge, Highgate; Mr. A. Alderman, Epsom Hill, Caterham; Mr. J. Nash, Belvedere Nursery, Wimbledion, exhibited four dishes of Victoria Nectarine. Some fruiting sprays of the Wineberry (*Rubus phoenicolasius*) were exhibited by Mr. W. Batchelor, Harefield Park Gardens, Uxbridge. The fruit of this plant resembles that of the Blackberry in some respects, but is of a bright red colour and a peculiar flavour. A dish of Runner Beans, Sutton's Best of All, came from the same gardens.

The first prize for Apples, offered by Messrs. James Veitch and Sons, was awarded to Mr. Owen Thomas, Royal Gardens, Frogmore, for a good dish of Irish Peach. Mr. Colville Brown,

Hextable, Swanley, came second for a well-coloured dish of Red Astrachan. The prizes for Pears, offered by the same firm, were taken by Jargonelles, the first prize going to Mr. King, Gatton Park Gardens, Roigate, and the second being awarded to Mr. Owen Thomas, Frogmore. Some of the fruits in this class when cut open were found to be rotten in the interior, probably owing to being over-ripe.

The fruit committee met at Chiswick on July 31 and examined the early stocks of Potatoes on trial, some 100 varieties of Tomatoes and French or dwarf Beans. Twelve members were present. The French Beans were sown from June 4, but owing to drought, had not made sufficient progress to give them a good trial.

The following received awards of merit unanimously:

TOMATO: NERIUS'S SPLENDIDA. — A very fine type, free cropper, fruits of good colour and flavour, above medium size and borne in very large clusters. The plant has a dwarf, compact, distinct habit.

TOMATO: CHISWICK DESSERT. — A variety raised in the society's gardens. Fruit of a beautiful red colour and borne in large clusters. The plant is of good habit.

TOMATO: YOUNG'S ECLIPSE. — A very fine variety of the Perfection type, but dwarfer, with few small fruits and very prolific. It is a very fine Tomato as regards quality and appearance. Plant of compact growth. From Messrs. Young and Dobinson, Stevenage, Herts.

POTATO FAMOUS. — A flattened round or pebbled-shaped kind of very fine quality. It is an early variety of nice appearance, and when cooked of first-rate quality. From Mr. Ross, Welford Park Gardens, Newbury.

VIOLA CONFERENCE.

A CONFERENCE of growers and others interested in the cultivation of the Tufted Pansy (*Viola*) took place in the Museum, Royal Botanic Gardens, Regent's Park, London, N.W., on Saturday last, August 8. The proceedings commenced at 11 o'clock in the forenoon, when a committee was appointed to inspect all seedlings staged for their adjudication and to confer first class certificates on those sorts of exceptional merit. Quite a large number of seedlings were submitted by Messrs. A. J. Rowberry, J. D. Stuart, D. B. Crane, Dobbs and Co. and Dr. Stuart, besides a number of individual exhibitors by other raisers. Many pleasing breaks in the work were observed in several stances, showing that careful work in cross-fertilisation has been carried out. This was very noticeable in several varieties which were of a true blue colour, a shade quite new in flowers of the Tufted Pansy. Other varieties of very chaotic and delicate shades of colouring were largely in evidence, and many of these were absolutely rayless and strikingly fragrant. Those sorts which are described as "miniatures"—being less than 1½ inches in diameter—seem to be utterly neglected, one eminent raiser declining to express an opinion on the merits of the varieties submitted. There appears to be a need for a better definition of this type of the flower before they are likely to be properly recognised and more largely grown. The certificates were granted without any consideration of the habit of the sorts thus recognised, so that the bedding value of them cannot be estimated by the awards given. A list of those awarded first-class certificates will be found in another column.

The conference proper commenced at 12 o'clock, when the president, Mr. A. J. Rowberry, occupied the chair.

The chairman suggested that it was unnecessary to read the minutes of the conference held in Birmingham last year, as they had been printed and made up in book form, which all interested had read, and he thought the time might very well be saved. The suggestion was therefore accepted.

Correspondence was read from many of the northern growers and others, regretting their inability to be present.

Mr. Wm. Cuthbertson (treasurer) then read the statement of accounts, from which it appeared the total income represented £8 17s. 6d., a large proportion of this amount being received for advertisements in the conference report. The expenses which were of a very varied character, including the cost of printing the report, were kept very low, so that the treasurer had a balance in hand of £1 4s. 7d. to hand over to his successor.

The chairman then proceeded to read his address, in which he acknowledged the honour conferred upon him by his position as president, but thought it should be conferred on one of longer standing. He explained that the conference in London was wisely adopted by the executive. He went on to say that in London and the suburbs during the last three years a great increase in the cultivation of the Tufted Pansy has been noticed; hence the need and wisdom of holding a conference in London this year. He hoped that future conferences would be held with joint society. The council of the Royal Botanic Society had welcomed them and had afforded them facilities for a trial of plants in their gardens, and these had well stood the severe test of the present season of drought.

The secretary (Mr. R. Dean) then explained that the previous day had been occupied by a committee in inspecting and reporting upon the trial of Tufted Pansies taking place in the gardens in which they had met. The committee consisted of Messrs. C. Jordan, Regent's Park; J. W. Moorman, Victoria Park; F. W. McLeod, Rochampton; W. Cuthbertson, Rothesay; A. J. Rowberry, and the secretary. When inspecting the trial the committee considered them as decorative plants for the garden as well as for exhibition. Only those varieties were mentioned which received a sufficient number of points to entitle them to a certificate, this distinction being conferred on a large number of old and new sorts. The following varieties were amongst those mentioned: Princess Louise (new rayless yellow), Rosea Pallida, William Niel, J. B. Riding, Pencaitland, Acme, Marchioness, Rose Queen, The Mearns, Archie Grant, Rosine, Sylvia, Snowflake, Niphets, Lemon Queen, Norah May, Luteola, True Blue, Ivanhoe, Duchesse of Fife and its sports, and two seedlings of Mr. Andrew Irvine's numbered 217 and 356, besides others. The foregoing were considered to have proved their adaptability for bedding. These were again divided up into types and colours, a section being devoted to those of dwarf growth and tufted habit, while a second section included those of strong growth and straggling habit; these latter sorts being considered to partake of those characteristics which make them of value for associating with other plants and used as a carpeting for them as in the case of a bed of Carnations and such like. A few instances will give the principle adopted. Dwarf and tufted, white: Marchioness, Countess of Hopetoun, Pencaitland, and Snowflake. Taller and straggling, white: Countess of Wharncliffe and Gigantea. Dwarf and tufted, primrose: Ardwell Gem and Luteola. Taller and straggling: Sulphurea. Dwarf and tufted, yellow: Princess Louise, Lord Elcho, and Bullion. Taller and straggling: A. J. Rowberry. Dwarf and tufted, blue: True Blue. Taller: Archie Grant. This rule was observed right throughout with the different colours, generally growing three dwarf sorts to two of the taller growths. The committee stated that there were many good sorts which had not been mentioned, but as these were not in good form at the time they were necessarily passed by.

Mr. B. G. Sinclair mentioned that the following varieties had succeeded well with him this year in his garden in Highgate Road: Lady Isobel, Ardwell Gem, Goldfinch, Lemon Queen, Charm, Duchesse of Fife, J. B. Riding, White Duchess, and Countess of Kintore. These were planted in March, and Mr. Sinclair's experience supported the report of the trial.

The secretary read a brief paper sent by Dr. Veit B. Wittrock, Director Botanic Gardens, Bergsländ, near Stockholm. He had sent copies of his *Viola* studies, his last being the history of the Pansy. Of the genus *Viola* in this connection, *Viola lutea*, *V. cornuta* were mentioned, as was *V. calcarata*, the latter a very valuable species. The writer mentioned that Professor Hillhouse in his paper on "Some Notes on the Genus *Viola*" read at the conference in 1895, made no mention of *V. calcarata*. Some beautiful illustrations of the genus *Viola* were passed round the room in book form as sent by the writer of the paper.

A vote of thanks was accorded Dr. Wittrock for his valuable paper.

Mr. C. Jordan (superintendent of Regent's Park) next read a very interesting, instructive and practical paper—"Violas for Bedding; with Special Reference to their Adaptability for Association with other Plants." The writer of the paper began by stating that this was not a new subject. The committee of the Viola Society do not consider the subject is yet exhausted, and he would therefore try to interest the uninitiated. The Pansy is numbered with the older popular flowers, and as a decorative subject has become established. He paid a compliment to the earlier raisers, mentioning the Cliveden Violas, those of Irentham Hall and Belvoir Castle—exported to America by those who had passed away. The foreground of his borders was committed to Violas, not always in long lines of one colour. There was a series of colours readily obtainable. When making up your mind as to colour obtain plants of the colour you need. As the season advanced it was necessary to use some stimulating manure, Clay's fertiliser being a very good one. He mentioned that there was an opening for a good manure, something that would return to the soil more than was absorbed by the plant. Do not plant in the autumn in a London garden, as the effect of the atmospheric conditions on them was very bad, the experience of a London fog being very convincing. When propagating for spring-flowering plants he recommended breaking them up instead of making cuttings; by these means healthy pieces were obtainable with roots attached, and a great gain in time made; this was done during July. The Tufted Pansy was a good town plant. Careless transplanting caused failure; we must do our best. With spring-flowering subjects, such as Polyanthus Narcissus Grand Monarque, he would associate V. Bluebell; with Stocks, Irises and flowers of similar character he would use Countess of Kintore, with its rambling habit. The climbing habit of Grevei he did not object to. For a spring border he used Sylvia to soften the effect of Primula cortusoides Sieboldi. Tufted Pansies and Farms were very pretty associated with the delicate greenery of the latter. In summer in a public park they are very noticeable. They should be planted on fresh ground each year. Planted in the same ground two successive seasons, there was a distinct falling off and a difficulty in keeping stock. The sunniest position of the garden should not be planted with the Tufted Pansy except for a spring display; they should not be planted where they turn their backs to the spectators. The varieties used by him were: Ardwell Gem, Archie Grant, Bluebell, Cliveden Purple, Bullion, Countess of Kintore and Countess of Hopetoun, Grevei, J. B. Riding, Lilacina, Sylvia and Violetta.

This concluded by far the most popular paper of the day, judging by the manner in which it was received.

Mr. D. B. Crane expressed surprise that the reader of the paper had not tried masses of Tufted Pansies, in which beds and borders were exclusively devoted to them. Mr. Alex. Dean, in a long speech, spoke of the beauty of the flower, stating that Tufted Pansies were planted in the same positions year after year by Mr. McLeod, Rochampton, but it was understood afterwards that the soil was renewed each season. He mentioned the charming association of Tufted Pansy Bluebell and a pretty silvery grass.

After luncheon, Mr. J. W. Moorman, Victoria Park, read another paper on the same aspect of the question as that given by the previous reader. He stated that the Tufted Pansy was in the front rank of hardy decorative plants, equally well adapted for either small or large gardens. He advocated massing the plants for obtaining a striking effect. Countess of Hopetoun and Craigmie he largely used. Ballion and Ardwell Gem possessed the habit all desire. Of creeping sorts for beds he recommended Lord Elcho, Geo. Lord, Tute Blue, Bluebell, and Hydrangea. Hechthe spoke of, as were also all kinds of the Countess of Kintore type. The Duchesses of Fife type were pleasing and useful, and were represented by long footstalks. Tufted Pansies can and will grow well in London. We want a substitute for water, and this was to be obtained by deep cultivation. He detested the use of the hose, as this often washed the soil away from the roots. Watering overhead did not disfigure the flowers. All Tufted Pansies propagated by cuttings were best for his purpose if the work was done in late autumn. Young growths dibbled in a close frame in September and planted direct from the cutting bed to the place of blooming well repaid for the small labour expended on them. Sickly and cankered growth, as well as attacks of the grub and wire-worm, often resulted from planting in successive seasons in the same plot of ground. Most plants associate with the Tufted Pansy, the latter forming a pleasing contrast.

Dr. Shackleton expressed his surprise that the flowers of the miniature type had not been mentioned, as they were so beautiful for bedding purposes.

Messrs. W. Baxter and H. A. Needs were no² on the agenda, each with a paper on "Violas for Exhibition, with special reference to newer varieties." The former gentleman commenced by pointing out that there were varieties which were useful alike for exhibition and for bedding, and under this heading he included the names of A. J. Rowberry, Border Witch, Christians, Ardwell Gem, and its three relations, Duchess of Fife, Goldfinch, and White Duchess. Then there were those with long footstalks, which in habit of growth and appearance more resembled the show Pansy, Craigmie and Purple Empress being representatives of this type. Lemon Queen was also mentioned as representing another form of the Pansy, the lower petals being so large as in the last mentioned type. Florizel was a half-flower which was almost square, with the upper edge. There were selfs in almost all shades but scarlet. Of the striped flowers, H. W. Stuart was the only one worth growing. Of the new sorts there were many which gave promise of high rank. A selection for exhibition was then given, and included the following varieties: Countess of Hopetoun, Norah May, Yellow King, a flower midway between Lord Elcho and Bullion; Lord Salisbury, pale yellow; Archie Grant, Purple Empress, Tara, Mrs. C. F. Gordon, to take the place of Countess of Kintore, Dandy Dinmont, Craigmie, and Stophilie Gem. Among the newer sorts he would include A. J. Rowberry, certainly the richest yellow in existence; Geo. Lord, another rayless yellow, of good form and size; and Lizzie Lindsay. Of white flowers, Vestal and Ethel Hancock were highly spoken of. Christiansa (creamy white) was the finest of the colour. Border Witch, of the reticulated sorts was one of the best. Of Waterloo (blue) and Florizel he could not speak too highly.

Mr. H. A. Needs briefly supplemented Mr. Baxter's paper, endorsing all that had been read. He should include in his list Cottage Maid, which he was surprised to learn that day had been out some years before. Lady Webster, also of the same type. Cherry Park was an elegant flower, but sometimes inclined to come a little coarse. Carissima was wanted for its colour, but the flower lacked substance. A. J. Rowberry, although such a good flower, had a distinctly bad constitution. Molly Pope was a good lighter yellow rayless self, but Catherine was better.

Katie Hay was mentioned, and Mrs. J. W. Jones was of Craigie style, but freer. Pencaitland (white) was good, but the trial had not done it justice. Niphonites synonymous with Marchioness, was also spoken of highly.

Mr. D. B. Crane thought that both Nellie and Mrs. A. M. Young should find a place in the list of newer sorts, the former being one of the best of the rayless white flowers, while the latter was a plant with a better constitution than Iona, but was a darker flower with somewhat similar markings.

The programme was here slightly altered and the arrangements for 1897 considered. It was in the end decided to hold the next conference in London in 1897, and another trial was also determined upon. The council of the Royal Botanic Society would afford them facilities for this purpose in their gardens, and would find a new position for them if they needed it.

Mr. A. J. Rowberry was re-elected president for 1897, Messrs. W. Sydenham, Geo. McLeod and Dr. Shackleton vice-presidents, Mr. H. A. Needs treasurer, and Mr. J. B. Riding, Chingford, hon. secretary.

Mr. J. D. Stuart, Belfast, sent a paper on "Viola Sports," which was read by the secretary. This was very short, for which the writer apologetic. Brief as it was, there was probably more expression of opinion on this than on any other point. A suggestion was made that the same subject might be dealt with in a fuller manner at the next conference, as the subject was full of interest to all growers.

Votes of thanks to the chairman and officers, together with the Royal Botanic Society, concluded the conference.

Tufted Pansies awarded first class certificates at the Viola conference, Royal Botanic Gardens, Regent's Park, N.W., August 8, 1896:—

BARTHOLDI.—A very large circular exhibition flower of much substance. The lower petals are rich purple plum in colour, shading off to a clear rose on the upper petals; neatly defined deep yellow eye. From Mr. D. B. Crane, Highgate, N.^{W.}

EDMOND.—Pretty flower of good size, circular in form, being in appearance like Lemon Queen but with the beautiful sulphur-yellow colouring of Ardwell Gem, extremely clean and neat. From Mr. A. J. Rowberry, South Woodford.

MABEL.—A flower of medium size and exquisite form. Colour light blue, with a small white blotch in the centre with a neat orange eye; fragrant. From Mr. A. J. Rowberry.

ROLAND GREENE.—Very large dark blue self, with deep violet lines running through the lower petals from the centre, oval in form, yellow eye. From Dr. Stuart, Chirnside, N.B.

ARGO.—A very pretty medium-sized flower of oval shape. Colour light sky blue, almost a new shade of colour in these flowers, neat primrose-yellow eye. From Dr. Stuart.

HAMLET.—Large flower of good form and substance. Colour striped bronzy orange and crimson-purple, a very striking novelty. From Messrs. Dobbie and Co., Rossetty, N.B.

IRIS.—A medium-sized flower, of good substance and circular form; colour light lavender-blue, with violet-purple centre, suffused with deep bronze. From Messrs. Dobbie and Co.

DAINTY.—A very pretty, but small flower; colour white, with a well-defined narrow Picotee margin of lavender-blue. From Mr. J. D. Stuart, Belfast.

LAVINIA.—A flower of medium size: colour bluish mauve, with an orange eye. From Mr. J. D. Stuart.

PEMBROKE.—This is another useful addition to the rayless yellow sorts and is of good size; colour on the lower petals orange-yellow, with a lighter shade on the upper ones; good form. From Mr. W. Sydenham, Tanworth.

BRITANNIA.—A flower of good size and substance; colour deep imperial blue, slightly veined; neat yellow eye. This is quite a new shade of colour, and one that will be useful for bedding purposes. From Mr. W. Sydenham.

Commended for colour:—

CLEOPATRA.—This is a flower of medium size, but good substance; colour deep imperial blue, with a suffusion of purple-blue—a new shade altogether. From Mr. A. J. Rowberry.

COTTAGE MAID (old variety) was also commended. Mr. Baxter being thus recognised for bringing it into prominence again.

The Royal Botanic Society.—The annual meeting of the Fellows of the Royal Botanic Society was held in the museum at the society's premises in Regent's Park on Monday afternoon, Mr. Pembroke S. Stanes, Q.C., presiding. The council, in their fifty-second annual report, expressed satisfaction in recording the election of 109 new Fellows, which was the largest number of elections in one year since 1880. Owing to the decreasing income from shows and fairs, and sources of income had had to be found, and in addition to the admission of the public on Saturday and Monday Banks and Bank Holidays, garden parties, tennis, croquet &c., had been instituted, and bicycling was now permitted in the gardens before 2 p.m. A steady increase of income under these heads had been the result. In 1893 the amount was £69 17s. 2d., and during the past year it had risen to £701 5s. 6d. The finances were, however, far from satisfactory, for notwithstanding the fact that the receipts had amounted to £5169 18s. 6d., the liabilities still amounted to £19,774 4s. 1d. The report was adopted. The ballot resulted in the election of Sir J. Blundell Maple, Dr. Coode Adams, Mr. H. A. Blyth, Mr. A. Lovense-Gower, Mr. C. E. Layton, Mr. H. L. W. Lawson, Mr. W. Martindale and Mr. William Sowerby upon the council. A vote of thanks to the Duke of Teck for presiding over the affairs of the society was then passed.

NOTES OF THE WEEK.

Mina lobata.—This pretty half-hardy annual has succeeded remarkably well during the long season of drought of the present summer, and has well repaid for the extra attention given. A sunny wall of Mr. Beckett's house at Aldenham Gardens has been trained with a number of these plants, the effect being quite unique. The twin-like racemes of orange-red blossoms are freely produced. They are invaluable also for table decorations, in which the colours would pleasingly associate.—D. B. C.

Hybrid Pentstemons and bumble bees.—One of the most showy beds in my garden is filled with fine named varieties of the florist flower Pentstemon, received from Lemire, of Nancy, and Forbes, of Hawick. A similar bed last summer was from the commencement of its bloom so infested with large bumble bees, as materially to curtail the duration of its beauty by causing the handsome flowers to drop off prematurely soon after they opened. This year not one of these bees comes near the bed. Can any reader account for this abstention?—W. E. G.

Chrysanthemum M. G. Grunewald.—This is a most continuous blossoming variety, and considering the small size of the plants, it is also most profuse. For quite three weeks blossoms have been freely produced, each one borne on a useful spike. The colour on open white has been pale pink, passing with age to bluish-white. As the season advances the colour will be better, and the blossoms larger. It is for the hothouse border, in which I am growing it that the value of this variety is best appreciated. At the moment there is promise of a somewhat prolonged display.—C.

Orinus hybrida Powellii.—My big clump of this handsome hardy bullocky plant has been finer than ever this year, and is still in beauty. It has this year produced no less than forty of its tall spikes, each spike bearing from twelve to sixteen deep rose coloured flowers. It is much to be regretted that the companion va-

rieties of this handsome plant should be somewhat less free-flowering than the type form, my clump of the lovely pure white C. P. album having only produced two, and the pink C. P. intermedium a similar number of spikes.—W. E. G.

Double Rudbeckia Golden Glow.—This American novelty in hardy plants was sent to me this spring by Mr. Henry Dreer, of 714, Chestnut Street, Philadelphia, and is now in full flower. The stems are over 6 feet in height, and each bears about thirty flowers of a golden-yellow colour in panicle. The first flowers to open were rather rough in quality and irregular in duplicate, but those which opened afterwards show a marked improvement, and closely resemble those of one of the double-flowered perennial Sunflowers. The colour is a good clear golden-yellow.—W. E. G.

Heliocampium Miss Nightingale.—A very effective diamond-shaped bush of this somewhat old variety is one of the prettiest pieces of bedding to be seen in the gardens of Aldenham House this season. The plants were propagated in the spring of 1895, flowered and grown on through the succeeding winter, and at the present time they are in a very healthy and vigorous condition. They have attained a height of from 2½ feet to 3 feet or more, branching out freely with most luxuriant growth and flowering most profusely, rendering the immediate surroundings delightfully fragrant and forming a pleasing contrast to the occupants of surrounding beds. Smaller plants are brought into requisition for carpeting the beds, adding materially to its beauty and attractiveness. It is a matter of surprise that the use of this beautiful subject is not more generally adopted.—D. B. C.

Hibiscus speciosus.—I send a flower of this very beautiful, but seemingly very shy-flowering species. I have had plants of it for perhaps thirty years, but not until now has it rewarded me with blooms. These are rosy crimson; the calyx, showing through the base of the petals, forms a green star in the centre, and the calyx itself is behind surrounded by long filaments. The foliage is digitate. It belongs to the section that dies down annually. It seems our summers are too short and too cool for it, coming from Carolina, where probably it is wild in the rice fields, as it delights in abundant moisture at the roots when growing, and I have found seeds of it amongst rice. Too much forcing only lengthens the stalks without forming buds, yet it is necessary to start it early. Mere protection from frost in a pit is all the dormancy protection required.—J. M., Charnwood, Dorset.

* A most interesting, beautiful and rare plant, with brilliant petals and soft pale green sepals.—E. G.

Helenium autumnale superbum.—This is another American novelty sent to me last year by M. Lemoine, of Nancy. Last year it bloomed fairly well on stems of about 3 feet in height, but this year, having become well established in my border, it has put up a couple of strangely fashioned perfectly erect stems of from 5 feet to 5½ feet in height. Each stem is crowned with a large number of flowers, borne on a number of independent lateral growths. The fasciation has extended itself into the flower-buds, one of which consists of either four or five flowers run into one; others of two or three similarly fused. None of the flowers are yet open, but when they are, should make a fine show of golden yellow bloom. I hear from my friend Mr. Wolley-Dod that a plant of this variety, obtained at the same time as my own, has in his strong Cheshire soil grown much more vigorously than mine, and has this year sent up no less than seven stems, each about 7 feet in height, and that none of these show any signs of fasciation, which is so marked a feature in both my stems.—W. E. G.

The feathered Cockscombs.—If anyone would see these in perfection they should pay a visit to the flower garden in the Regent's Park near to the Portland Road Station, where Mr. C. Jordal has employed these charming plants largely and with excellent effect—such a perfect strain, so handsomely feathered, so varied in tint, so brilliant in hue of some of the crimson shades, and so

even in character—and not only are the terminal feathers finely developed, but lateral shoots are being put forth which will keep up the floral succession for a considerable time. How attractive they are to be seen in the number of passers-by who stop to examine them and wonder what they are! and how many curious conjectures as to their identity. The strain is peculiar to Regent's Park one, for Mr. Jordan assured me he had been occupied ten years in selecting it, and he is to be congratulated upon his remarkable success. Mr. Jordan always holds a considerable reserve of plants for special uses. For instance, the beds of Carnations are now over and have to be removed, and there is not only the reserve of Celosias, but other things to succeed the Carnations and kindred subjects, which, flowering early, are not continuous in bloom. Besides the feathered type, Mr. Jordan has a reserve of the Crested Cock's-combs, a good many of which he has already put out and are doing well, rapidly developing their combs. The feathered Celosias mark a record in decorative gardening.—R. D.

Hardy flowers from Winchmore Hill Nur. Soc.—I am sending per separate post a few flowers that I thought might be of interest to you. Gaillardia Tom Thumb only grows about 15 inches in height, forming a stiff little bush, simply covered with flowers, and I have another variety growing under 9 inches, but this variety has passed flower; it is their natural height, and I think they will be two grand plants for bedding. What do you think of Magenta Queen? The colours are quite distinct from anything I have seen before; the flowers are somewhat dingy, owing to the heavy rains of the last few days. Achillea Little Gem, entire plant cut off at the ground to show habit and size of plant. Chrysanthemum latifolium grandiflorum just coming into flower; a good plant, similar to the old variety. Echinacea (Rudbeckia) purpurea (the Winchmore Hill var.) a very good form and much brighter than the old varieties. Platycodon grandiflorus planus is a very fine plant and very late flowering. Platycodon Mariæ is very dwarf and exceedingly free. Gaura Heldreichii is still in flower, and now that we have had some rain will flower freely till late in the autumn, it is a splendid plant. [Yes, splendid; very fine colour.] I have also some very fine crosses with Geum montanum, different shades of orange; some, I think, will be interesting additions to this popular family.—AMOS PEREY, JR.

* Platycodon Mariæ alba is very delicate in colour and distinct; Aster Bigelowii, a very early and handsome kind; Rudbeckia purpurea (the Winchmore Hill var.) is of very good colour, much better than the ordinary one.—E. D.

Double zonal Geranium Mme. Alcide Bruneau.—This new variety, raised and sent to me this spring by the well-known French nurseryman, M. G. Brault, of Poitiers, is quite the prettiest thing of the kind I have ever seen, and is, indeed, a most distinct break in quite a new direction in doubles, just as Lemoine's Belle Alliance of last year was in singles. The individual pair of this new double zonal are of large size and by no means fully double, which, I think, is rather an advantage, as the flowers have a more perfect and less crowded appearance. The ground colour of the flower is a clear bluish-white, and each petal is distinctly bordered with a clearly defined thread of rose colour, exactly as in a perfect Picotee Pink. A double zonal was sent out a few years ago under the name of Picotee, but it was a poor thing and altogether inferior in beauty to this new French variety, which should find a place in every complete collection of these most satisfactory and easily managed ornaments of our conservatories. I received at the same time from M. Brault four new single-flowered zonal Geraniums of his own raising and of the same race and strain as the two he sent out last year, named Mme. Brault and Fleur Poitevine, which were mentioned and described in the columns of THE GARDEN. The names of the four new varieties are Docteur Marmontek, a deep rose, with white centre; La Vienne, carmine, flushed with white; Mme. Coralie Bajac, rose, with white centre, and Mme. Cadeau, large,

deep rose colour, flushed with white. All these are bright, pretty and free-flowering varieties, producing large trusses of bloom, but as they all belong to the nosegay section of the family, the petals of the individual flowers are narrow and the flowers are distinctly deficient in that roundness and perfection of form to which the many fine seedlings raised by our best home growers, such as Messrs. Miller, Pearson and Castell, have made us accustomed, and for which all who love flowers must feel grateful to them. Still, these French varieties will doubtless find many admirers for their brightness and free-blooming qualities.—W. E. G.

Planting by railway companies.—The Manchester, Sheffield, and Lincolnshire Railway Company have decided to plant with trees all vacant slips of land which are the property of the company, and which lie between the cuttings of the London extension and the public roadway.

African flora.—In the House of Commons on Friday, in answer to Mr. Hedderwick, Mr. Akers-Douglas said: "The third volume of the 'Flora of Tropical Africa' was published in 1877. In 1891 the Treasury authorised the completion of the work, and the fourth volume is now ready. Mr. Dyer of Kew Gardens, on the understanding that one volume would be published every two years. No further volume has yet been issued, although portions of one are in type. Mr. Dyer has been urged to complete the work as rapidly as possible."

The weather in West Herts.—A cool week for the time of year, the temperature in shade on only two days rising to 70°, while most of the nights were below the average. The ground temperatures have fallen during the week, but are still slightly above the August mean at both depths. Rain fell on three days, the total measurement, however, amounting to less than half an inch. No rain-water at all has now come through either of the percolation gauges for a month. The winds were again light, and came mostly from some northerly point of the compass, while the record of bright sunshine proved low for a summer month.—E. M., Berkhamsted.

Propagating Carlina acaulis (Carlina).—Divide it in early autumn.

Book on Orange Culture (C. Farquharson).—There is a useful book on the subject published in France, but Orange growing is not practised in this country. Write to Georges Masson, Boulevard St. Germain, Paris.

Name of fungus (A. C. B.).—The fungus is Agaricus radicatus; it belongs to the edible series. The best examples grow in pastures; those from woody places are considered less suitable for the table.

Table and button-hole plants.—Will some kind reader tell me a nice collection of table plants and something nice to cut for spray other than Sunilar, also a nice collection of flowering plants suitable for button-hole work? I should be extremely grateful.—T. ROACH.

Flowers for grave (Thistle).—On such a small place it will be impossible to have as much as you desire, and we do not think a glass structure would be nice or of much use. The best way would be to cover the grave with moss Rockfalls and to let a few simple flowers come through, such as Snowdrops and white Narcissi, or any others that you fancy. If there are railings around, a garland of Honeysuckle or wild Rose might be added.

Names of plants.—*Granvillea R. Rusler.*—An annual Hibiscus, apparently *cne* of the varieties of H. Tricornis.—A. C. B.—Agaricus radicatus—= *Urticularia*.—1, *Nemophila menziesii* annuum; 2, *Campanula*, specimen not sufficient to name; 3, *Phlox coccinea* virginiana; 4, *Hypericum hirsutum*; 5, *Saponaria officinalis*; 6, *Primula elatior*; 7, *Primula elatior* var. alba; and 8, *Primula elatior* var. rosea, which when it gets a bit stronger. If not, send us a fair specimen, roots and all, and we will do our best to name it.

"This is an Art
Which does mend Nature: change it rather; but
THE ACT ITSELF IS NATURE."—Shakespeare.

ORCHIDS.

NOTES ON ORCHIDS.

The present and the two succeeding months may be considered about the dullest in the year for Orchids, the number of species in flower being probably less than at any other time. Still, there are even now many very interesting and beautiful kinds to be seen, and where a representative collection is grown no fault is likely to be found. Already the lovely racemes of *Dendrobium Phalaenopsis* are open, and when it is considered that a succession of these can easily be kept up until after Christmas, the value of this remarkable Dendrobium may be easily imagined. Not the least of its charms is the marvellous range of colour, this passing from almost pure white through many shades of rose to a rich deep purple, each and all of them beautiful and most useful Orchids. *Saccolabium Blumei*, too, with its long cylindrical racemes of ivory white flowers, is a characteristic member of the distichous-leaved section, noble in appearance, and very free blooming. *Aerides crispa*, *A. quinquivalvularis*, and *A. suavis* also contribute to the season's display, while the showy *Vandas*, *suavis* and *tricolor*, in variety have still a few flowers left. The Butterfly *Oncidium*, *O. Kramerianum* and *O. Papilio*, continue at intervals to throw up their peculiarly attractive blossoms, each on the apex of a wiry-looking peduncle hardly visible at a little distance, and heightening the likeness considerably by their elegant poise. *Phalaenopsis violacea* is a useful member of this genus, and the pretty blossoms are now open. A good deal of light is required now by all these warm house Orchids, for not only is the sun losing power, but it is time to think of preparing them for winter. Already I have taken a considerable number of *Dendrobiums* from their growing quarters, and these, having been previously hardened by a week's sojourn in the Peach house, are now in a sunny frame, the lights being drawn off and no protection given except from very heavy rains. These consist of *D. aureum*, *D. Ainsworthii*, *D. crassinode*, *D. Parishi*, *D. nobile*, *D. speciosum*, and *D. Wardianum*. They are still kept moist at the root, or rather they are frequently watered, as the air and sun combine soon dry up the compost. All these and others as they finish their growths will be kept outside until the nights are getting too cold for this to be safe, when they will be again taken under cover. Any house that is light and well ventilated, and in which the night temperature is maintained at about 45° or 50°, will do nicely for these species until they are again started, and every one of them will be better for the complete rest thereby induced. Many of the Mexican *Lelias*, too, are greatly benefited by a fortnight or three weeks' exposure to the open air after the growth is complete, the treatment having a steady effect upon the plants, inducing them to go to rest early, and consequently to flower more freely. There are also several *Anguloas*, *Lycastes*, *Mimularia* and *Stanhopeas* that do with the outdoor treatment, but the foliage of many of these is more sensitive and easily injured by strong sunlight, and I would advise growers to experiment at first with a few plants they are not particular about

rather than trust a valuable collection outside. This is chiefly on account of locality. What will do in moist and well protected gardens will be wrong in higher and more exposed positions. Often at this time of year a little rearrangement of the plants becomes necessary, bringing to the lightest and warmest positions any that are behind their season, placing small or weak ones where they are well in sight and not likely to be overlooked. The removal of the forwardest plants, too, makes more room for those left behind, and these will now require to be as far apart as possible, to let the light and air play about every part of them. By these means and by judicious watering, each plant will have the correct treatment as far as this is possible, whereas had all been left together, many would be growing out of season, while others would not have the requisite room for their full development.

It is seldom that I have to remove any plants from the Cattleya house, but if it seemed to be necessary, I should not hesitate to place any early pieces of *C. gigas* or *C. Gaskelliana* in a light airy greenhouse or vinery in order to ensure their being kept dormant, while later plants of say *C. Mossiae* were finishing. But if this removal can be averted by careful arrangement and judicious ventilation and shading, so much the better. The distinct-looking Cattleya *bicolor* is in flower in this house, the blossoms being remarkable in that they have the column bare and not enfolded by the side lobes of the lip, as is usual in the genus. It is not so showy or fine as many others in this set, yet a good variety of it is well worth a place. The richly-marked blossoms of *C. guttata Leopoldi* are greatly superior and make a welcome change from those of the labiate section, for, gorgeously beautiful as these are, it must be confessed that there is a certain amount of sameness about the different species. Among the coolest section of *Odontoglossums* there is now something of a dearth of flower, but where the plants are well cared for by an enthusiastic cultivator he will find ample to interest him in the advancing bulbs, or rather growths. The quantity of water that has to be given to these beautiful Orchids soon upsets the mechanical condition of the compost, and whenever a plant is seen to be needing fresh material it should have it. It is not necessary to disturb the roots much, a little of the top peat and Moss being easily removed and new substituted if the drainage is in good order. If in so bad a condition as to necessitate turning right out, no compensation need be felt as to doing it, for sooner or later it has to be done, and when once over, the roots have the benefit of the new compost to run in. I am not advising a thorough overhauling this month, as I think it is wiser to wait until the weather is a little cooler, but any plants seen to be really in need of fresh material should have it, more especially those that are forward in growth, and that will consequently soon be pushing fresh roots in abundance. The nights being much cooler, less air must now be left on this house and less shading will be required to keep the day temperature down to about 60°, which figure ought seldom now to be exceeded. Large pots or pans of *Coccyginea cristata* will need abundance of water at the roots, the new bulbs being well advanced, and if possible they will be all the better for coming up a little nearer the light. There is yet time to put untidy plants in order by adding fresh compost and tying in the bulbs, but it ought not to be longer delayed. Keep a sharp look-out for the new roots of *Oncidium macranthrum*, *O. undulatum*, *Odontoglossum Edwarsi*, and similarly habited kinds, for if

there are snails or cockroaches in the house they are sure to find these out, and the mischief they do is considerable. Towards the end of the month, covering must be afforded the frames where cool Orchids are grown, for though there may be no actual frost, the change from the day to the night temperature is too much for them, and being close to the glass they are apt to be chilled. After the flowers of *Diss grandiflora* and others are over the plants must be kept in a cool temperature, not dried by any means, yet allowed to rest awhile if they will before being again potted up. *Anguloas* must be well watered, the roots being gross feeders and the plants having a lot to do as yet in finishing up the large fleshy bulbs that are necessary to free flowering next season. The smaller-growing kinds of *Sophronitis*, too, grown as they usually are in pans or baskets, must not be forgotten. The flowers that will make such a bright and effective display in November and December, when everything outside is dreary and dull, are now forming, and it must never be lost sight of that these are marvellously large for the size of the bulbs that produce them. Be careful of the plants now and their future bloom is secured, but if neglected now, it is useless to look for a bright display or future health. So one may keep on giving instances of small matters that are continually needing attention, but they will suggest the needs to anyone who looks closely into the needs of the plants under his care, and it is only this class of cultivator that can hope to be successful with Orchids of any kind for a number of years. R.

Cypripedium stenophyllum.—This pretty hybrid belongs to the Selenipedium section of the genus and was the result of crossing *C. Schlimg* with pollen of *C. Pearcei*. It was raised in the collection of Mr. J. C. Bowring, of Windsor, about ten years ago, and is a distinct and pleasing kind. In habit it is about intermediate between its parents, and the blossoms are freely produced on many flowered scapes that spring erect from the new growth at various seasons. The sepals are white, veined with green, and slightly flushed with rose at the base, the pouch and petals of varying shades of rose. It is a free-growing plant and may be potted in equal parts of peat, loam, fibre and Sphagnum Moss, the pots well drained, and the roots supplied liberally with water all the year round. It does best in a shady part of the Cattleya house.

Cypripedium superbiens.—I consider this one of the most beautiful of all *Cypripediums*, not only the flowers, but also the foliage on well-grown plants being strikingly ornamental. In shape and also in colour, with the exception of the petals, it comes very near to some of the best forms of *C. barbatum*, but it is the petals that give the flower its peculiar character. They are white with a suffusion of pale purple towards the apex and a flush of green at the base, and over their entire length are small purple spots. It may be grown with ease in a shady part of the Cattleya house. It is a native of Java and was introduced in 1835.—H. R.

Stanhopea oculeata.—The flowers of this Orchid vary considerably, those of some of the best forms being very showy and worth a place in any collection. A plant in bloom now has two spikes each bearing five handsome flowers, about 5 inches across. The ground colour of the sepals and petals is a clear yellow, and there are many bright purple spots, especially upon the former. The lip is white with crimson spots in the centre, the frontal portion spotted with purple. Being a native of Mexico it requires less heat than most of the other species and may in fact be accommodated with the warmer section of *Odontoglossi* or with the Mexican *Lelias*. Otherwise the treatment may be similar to that recommended for

Stanhopeas generally, but not being quite so robust as some others it must not be allowed quite so much root run.

Dendrobium chrysanthum.—This pretty species has but one fault and that is the short time the flowers last in good condition—usually only from ten days to a fortnight. They are produced along the newly-formed growth, which often attains a length of from 3 feet to 4 feet. The golden yellow blossoms with deep maroon eye-like blotches have a very fine appearance, and the fact of their being delicately scented is an additional recommendation. A frequent mistake made with this fine Dendrobium is tying the growths up to stakes, thus spoiling the natural habit and giving it a strained and ungainly appearance. Let them hang loosely and naturally and the growth will be stronger and the beauty of the plants greatly enhanced.

Epidendrum cochleatum.—This quaint old species often blooms during this month, and is even at the present day worth a place if this grotesque-looking kind of Orchid is liked. In habit it is not unlike one of the labiate section of Cattleyas, and the flower-spike is produced from a sheath at the apex of the bulb in the same way. This bears several blossoms that vary considerably in colour, but the sepals are usually come tinted greenish yellow, the outside of the concave lip being reddish purple, inside white or pale yellow. It is one of the easiest of Orchids to grow, and never fails to bloom profusely, being in this way unlike *E. fragrans*, a somewhat similar species in appearance, but of different colour. It is a very old species and a native of Trinidad, Jamaica and Mexico.

Masdevallia peristeria.—This belongs to the smaller flowered section of the genus, and is a peculiar and interesting plant, remarkable on account of the resemblance of the internal parts of the flower to *Peristeria elata*. The growth is free and vigorous and the blossoms freely produced, the colour of the sepals a rich brownish yellow with spots of purple, the tails pale yellow. The flowers are produced at various times in the year and last a considerable time in perfection. It is a native of Colombia, and will thrive in quite a cool house all the year round. The plants should be potted in equal parts of peat and Sphagnum, and a plentiful supply of water afforded them.

Miltonia candida.—This is a useful and free-blooming species now just coming into bloom. The flowers are produced on erect racemes, as many as eight or nine occurring on each when the plants are strong. They are $\frac{3}{4}$ inches across and very variable in colour, the sepals and petals usually some tint of brown, and the lip white. It is an Orchid that may be grown by anyone, being of the easiest culture if planted in small pans or baskets and suspended in a light, but not too sunny position in a warm house. Plenty of water is required all the year round, but especially while in full growth or flower. Equal parts of peat fibre and Sphagnum over good drainage will grow it well. It is a native of Brazil, introduced in 1839.

Paphinia cristata.—Though not by any means a showy Orchid, the blossoms of this species are quaint and interesting, and of a distinctive colour. Though the ground colour is whitish, this is so heavily overlaid with chocolate markings that the white is hardly noticeable; the lip chocolate-brown, with a tuft of fine white hairs in front. The spikes appear at the base of the newly-formed pseudo-bulbs, and as a rule carry about three flowers only. This Orchid likes plenty of heat and abundance of atmospheric moisture while growing, and even at rest is ought not to be dried. The treatment of the roots may, in fact, be somewhat similar to that accorded *Lycaste*, but they are not quite so strong feeders. An important point is to see that nothing of a sour nature is allowed about the roots, as this is often the cause of trouble with it. The peat and Moss must be renewed often; it will not, as a rule, last in good enough condition for Paphinias longer than two years, and in repotting or basketing

great care is necessary to disturb the plants as little as possible. *P. cristata* should be hung up if convenient close to the roof glass, but it must, nevertheless, be carefully protected from bright sunshine, the foliage being rather thin in texture and easily damaged. It is also subject to the attacks of red spider, which soon spoils its appearance if allowed to go on unchecked. A moist atmosphere, then, and frequent spongings with clear water are important points to be looked after. It is a widely distributed plant, growing naturally in many parts of South America, and was introduced in 1834.

Odontoglossum Inseleyi.—Flowers of this well-known species come from several correspondents, showing its value as an autumn bloomer, while its beauty in the better forms cannot be doubted. The varieties run into each other, so to speak, and it is difficult to give a name to some of them, being distinct from the type, yet not exactly like the recognised varieties. Nor is this really necessary, so much varietal nomenclature leading only to confusion. *O. splendens* is the largest and best form of *O. Inseleyi* and comes from E. J. Somerset. The flowers are upwards of 4 inches across, as deep in colour as the sepals and petals as the best forms of *O. grande*, and having the same sleek, varnished appearance. The lip is lemon-yellow with red spots, making up a really beautiful flower. *O. Inseleyi* is of easy culture and may be grown in a cool house or even a shady frame during the summer months, any moist greenhouse where the temperature is kept a little above 50° at night, suiting it during the winter months. The growth is sometimes attacked by a soft brown scale, but this may be kept under by ordinary vigilance. Good drainage should be allowed in medium-sized pots, and the compost kept in a rough and open condition by adding plenty of rough lumps of charcoal and crocks. While growing freely it requires abundance of water, and while at rest must never be really dried off, this treatment only weakening the plants with no corresponding benefit. It comes from the higher regions in Mexico and was first introduced in 1840.

ONCIDIUM ZEBRINUM.

The flowers of this Oncidium are very distinct and beautiful, and I consider it is not nearly so much grown as it deserves to be. The flowering season depends to some extent on how it is grown, but if kept going after it starts in spring the blossoms may be had in perfection during the present month. They are produced on long scented and branching spikes and are individually from $\frac{1}{2}$ inches to 2 inches in diameter. The ground colour of these is white, and the sepals, petals and lip are all transversely barred with purple, the lip spotted with reddish-brown. The best possible culture for *O. zebra* is to make up suitable sized rafts and line these with about an inch of peat and Moss, as it is easy to add more afterwards if found necessary. The plants may be wired down firmly to these as near the centre as possible, for on account of the bulbs occurring at a considerable distance apart on the rhizome they will soon reach the outside of the raft. Every season it will be necessary to remove a little of the old compost and give fresh peat and Moss when signs of new root action are apparent. This will strengthen the plants considerably just at the time they need support, and obviate the necessity of removing them entirely. If the plants do well they will push abundance of roots down through the compost, and these twining about the rods make it a difficult subject to transplant, so the need of keeping each set of new roots healthy may easily be seen. The best place for the plants is a shady part of an intermediate house, the rafts being suspended from the roof, where they will get the benefit of the air currents. If no intermediate temperature is at command, that is, nothing cooler than the Cattleya house, the plant will thrive with the Odontoglossums; in fact some cultivators prefer the cooler system for it. It is more a matter, however, of a nice moist and

steady atmosphere and careful treatment of the roots, for if these details are well attended to, a few degrees higher or lower will not make much difference. No resting season is required, though if the growth seems inclined to steady a little it is not advisable to excite it. But the plants must never be dried off, such treatment being very injurious and weakening to the plants, no corresponding benefit accruing. Scale is the only insect likely to attack the plants in a suitable atmosphere, but if kept dry and hot thrips are also liable to put in an appearance. Neither of these must be allowed to make headway or the plants will be greatly checked, so at the first signs of the insects they must be carefully sponged, repeating this if necessary until a complete ridance is effected. *O. zebrinum* is a native of Venezuela, and first flowered in this country about a year after its introduction in Mr. Bull's collection at Chelsea in 1872. H. R.

Masdevallia Trocina.—The flowers of this Masdevallia are very quaint and distinct, resembling neither the showy flowered set nor the varieties of the Chimera section. In habit the plants are fairly strong, the leaves about 8 inches high, bright green, recurved at the tips, the flowers being produced singly from the base of these. Each flower is from 6 inches to 8 inches in length, the colour at the base of the sepals reddish brown, the elongated tail-like processes yellowish. It should be planted in pots of peat and Moss over abundant drainage, and care must be taken to always keep the compost sweet and open. It does well in the cool house provided the temperature does not drop below 50° in winter, and it is a native of New Grenada.

Masdevallia Harryara regalis.—This is one of the very best forms of *M. Harryana*, and it would be almost impossible to improve on the rich dark tint of the blossoms. Seen in flower alongside the typical and some of the poorer forms its attractions are even more manifest. It does well in the cool house, treated as frequently advised for the Peruvian and Colombian kinds generally, the principal points in its culture being to keep the growth free of insects and to maintain a regularly moist and cool temperature all the year round. Very little compost is needed, only a thin layer over good drainage, and care is necessary with the watering during winter.

Oncidium barbatum.—This is a bright and very effective little Orchid when well grown, the spikes producing several bright yellow blossoms, spotted with red on the sepals and petals. The flowers are produced in pairs, the peduncles growing close together, each bearing a single leaf. It should be given the heat of the Cattleya house while making its growth and allowed a rest in a cooler and rather drier temperature afterwards. It succeeds in small baskets or pans, the latter for preference, and these should be suspended from the roof in a light and airy position. In potting it is wise to disturb the plants as little as possible, as the roots are not so vigorous as in some other kinds, and a very thin surfacing of clean open compost over good drainage suffices for it.

Odontoglossum constrictum.—Though not by any means in the first rank of Odontoglosses, this species is useful at this season, when not many others in the genus are in bloom. The blossoms are produced on branching spikes and are each about 2 inches across. The sepals and petals on a plant I have in flower are deep yellow, striped with reddish brown, while the lip is white, with lighter coloured blotches. It is a native of La Guaya, and thrives well in the cool house. The plants must be kept well up to the light, and should be placed in medium-sized pots in a compost consisting of equal parts of peat and Moss.

Masdevallia Lowii.—This is one of the rarest of Masdevallias, as no more than three plants are known to be in cultivation. The leaves—which are each about 7 inches long—resemble those of *M. Chimera* in shape, but they are not so thick and paler green in colour. The flower-spires are produced from the base of the growths, and push

their way downwards through the potting material, as in the case of M. Chimæra, but instead of keeping their downward position, as is the habit of most of the last-named section, those of M. Low begin to turn up when the spikes come into contact with the light, and continue to grow erect to the length of 12 inches or 15 inches. The spikes, which are produced in succession, are two or more-flowered. The flowers are triangular in shape, the extreme tips of the flower ivory white to the extent of 1 inch. The basal part has a ground colour of greenish white, shading to orange-yellow at the extreme base, the whole being heavily suffused and spotted with crimson purple. The lip is rose purple, the back of the flower greenish white, showing the purple spotting at the base. It is certainly one of the most striking *Masdevallias* I have seen. Mr. Low requires warmer treatment than most *Masdevallias*; it thrives with Mr. Masses at Cambridge Lodge, Camberwell, in the *Cymbidium* house a temperature of about 60°.—STELLA.

JULY IN SOUTH DEVON.

The past month has followed the lead of its predecessors in being unusually dry, only 152 inches of rain having fallen on ten days, against 273 inches on twelve days during the corresponding month of 1895, the average for July being 2.79 inches. For the seven months of the present year the rainfall has been but 8.14 inches, compared with 14.14 inches for the same period of 1895, and an average for the seven months of 17.97 inches, so that up to the present time we have had less than half our usual rainfall. In the last nine years there have been three very dry summers—1887, 1893 and 1896. For the four months commencing April 1 and ending July 31 the rainfall on the three years in question was as follows: 1887, 4.38 inches; 1893, 5.91 inches; and 1896, 3.58 inches. The driest month in 1887 was June, with a rainfall of 0.11 of an inch. In 1893, April, with 0.41 of an inch, showed the lowest average, but during the present year April beats both the months with 0.10 of an inch, while May, with only 0.03 of an inch, was practically rainless. The mean temperature for the past month was 68° 8' against 66° 10' in 1895 and an average mean of 61° 2'. The lowest temperature recorded was 47° on the 29th, and the lowest in the screen 50° on the same date, while the highest screen temperature was 75° 4' on the 7th, and the highest sun-reading 125° 4' on the 10th. Sunshine has been considerably above the average for the month, which is 183 hours, 242 hours 40 minutes having been registered against 179 hours 10 minutes for July, 1895. For the past seven months 1155 hours have been recorded, against 1242 hours 30 minutes for the same period of 1895 and an average of 1128 hours 5 minutes. The total horizontal wind movement has been 5570 miles, compared with 7433 miles in July, 1895. The greatest daily run was 406 miles on July 4, and the highest hourly velocity attained 31 miles per hour between 6 and 7 a.m. on the same date. For twenty-two days the direction of wind has been from south to west, and on nine days north to east. The mean register of ozone for the month has been 55.3 per cent., highest amount—85 per cent.—being recorded during a strong south-westerly breeze on the 26th, and the least—25 per cent.—during a north wind on July 7. The mean humidity of the month has been 74 per cent., against 70 per cent., July, 1895.

In gardens where the soil is shallow and where no means of retaining have been at hand, herbaceous plants have been much dwarfed in stature and the quality of their bloom has been greatly impaired. Tall-growing Phloxes have in some cases been considerably less than 2 feet in height, and their blossoms have shrivelled at the edges almost immediately after expanding. On the other hand, where copious supplies of moisture have been afforded and the soil is deep and rich, these plants have been exceptionally fine, some

reaching a height of 5 feet and bearing masses of perfect blossom. A bright cerise is the most effective colour, being even more striking than the deeper shades of red, while the salmons and whites leave little to be desired in their respective tints, but the white pinks are of scant value to the border. Achillea ptarmica The Pearl has continued its display through the greater part of the month, and the Monkshood (*Aconitum Napellus*) has produced a second supply of tall blue flower-spikes. The white and the blue African Lily (*Anthurium umbellatum*) are in fine bloom in some gardens, the practice of keeping the plants in tubs, which are taken under shelter during the winter, being unnecessary in this mild climate. Among those subjects whose chief beauty lies in their fine form, the *Acanthus* has been noticeable, and tall rods of flower nearly 7 feet high are thrust up from the giant leaves, which owe much of their beauty to the fact that no frost touched them throughout the past winter. In the same category of foliage plants are the *Funkias*, F. Sieboldii being the handsomest, owing to the cool, glutinous tint of its leaves. This variety as well as *F. grandiflora* and *F. ovata* varia have borne their somewhat inconspicuous flowers in abundance. A fine *Arundo conspicua*, with slender shafted plumes arching gracefully above the thickly-growing foliage, has been a feature in the garden; the plumes being numerous and almost 12 feet in height. *Alstroemeria aurantiaca* has been in bloom the month through, but the hybrids concluded their blossoming a fortnight earlier. A *pelagrina alba* (the Lily of the Incas) has bloomed and given a faint idea of what may be expected of it when well established. The unwelcome reminder that autumn and her harsh follower—winter, are hastening their footsteps is reluctantly borne in upon us when the Japanese Anemone opens its snowy petals, and this year, before July had wasted half its days, the tall clumps were white with blossom, and the perennial Sunflowers were showing boulders of gold from bank and border. *Helianthus rigidus* and its variety *Miss Mellish*, *H. multiflorus*, *H. Solei d'Or* and *H. latifolius* all adding their quota to the yellow glow, which will reach its climax during the days of August. The Plume Poppy (*Paeonia cordata*), with its blue-grey foliage and large heads of inflorescence partly white, partly the tint of burnt almonds, has been very effective with a backing of *Phyllostachys viridis* glaucescens, and has shone more brightly than ever. The hardy *Chionodoxa* barbata, with its long flower-spikes sparingly set with drooping coral-red bells, is very taking, especially when seen in a good sized clump. Carnations have been good, the old crimson Clove not suffering from the spot as much as is usual with this favourite variety. Campanula turbinata and its white form, with their dainty fragile petalled bells, have been as beautiful in a humble way as their great sister the Chimney Campanula (*C. pyramidalis*) has been in her lofty estate, while *Platycodon grandiflorus* and P. Mariesii, with their Campanula-like blossoms, have bloomed well. The new race of *Cannas* has made a brilliant display, with their large flowers, and C. Ebmanni idiomorpha, valuable alike for its large and handsome foliage and for the uncommon ruby-pink of its flowers, is always remarkable for its fine form and colouring. *Coreopsis grandiflora* is a sheet of gold, and the pretty annual *Cosmos bipinnatus* has borne quantities of Caliopsis-shaped white flowers. The Chrysanthemum coronarium, though a small, sprawling, upright foliage, much similar to that of the Nigella, is also attractive. A large bush of *Cytisus racemosus* is again covered with golden blossoms, and the *Wistaria* has borne a second flower crop. *Chrysanthemum maximum* has already begun to expand in large Daisy-like flowers, while the handsome *Crinum Powellii* is in bloom in sheltered gardens. Here and there appear the fine yellow stars of *Doronicum plantagineum* Harpur-Crewe, and the Dahlias are blooming in fair quantities on this the last day of July. *Eryngium Oliverianum* and E. amethystinum were at the brightest of their metallic blues at the commencement of the month, and at its

close the round blue flower-heads of the handsome Globe Thistle (*Echinops Ritro*) were at their best. *Erigeron speciosus*, which commenced to show bloom in March, is still in flower in some gardens. *Lathyrus latifolius album*, the Everlasting Pea, has smothered a sheet of soil with its white blossoms, and the crimson and gold, the tall Cape Hyacinth (*Galtonia candicans*) has hung its white bells above the scarlet *Lychis chalcodonica*, which in slightly sheltered spots has retained its brilliance through the greater part of the month, and *Gladiolus brevibrensis*, with its scapes of vivid red, has contrasted well with the paler tints of G. Lemonei and G. floribundus. The white *Gallega* has been a snowy mass of Pea-like flowers, and *Gypsophila paniculata*, in billows of its delicate flower-lace, is at a distance a vaguely defined grey mist, which upon nearer inspection resolves itself into a host of minute white blossoms on many-branched hair-fine stems. For indoor decoration it is invaluable, associating well with almost every description of artistic flower arrangement. Another July bloomer that has a certain resemblance in its inflorescence to the *Gypsophila* is *Statice latifolia*, which is very ornamental both in the open and as a cut flower. *Heucherella Kwanso* fol. var. has flowered well, and I came across an extra vigorous plant the other day, which had thrown up its flower-heads to a height of 5 feet. This plant had almost entirely lost its vegetation, only one or two leaves being lightly striped with white. Hollyhocks, as far as my knowledge goes, have this season done remarkably well, and many fine rows of these plants have I seen without a sign of disease. In cottage gardens, both in this district and in the Isle of Wight, their appearance left nothing to be desired. The Hydrangeas have commenced their display betimes, but they are as yet far from the zenith of their beauty. Helichrysums, though stiff and artificial-looking, have profited by the absence of frost.

Two homely flowers have made as effective a show of white and gold as many of their aristocratic companions of the like colour—to wit, *Matricaria inodora* fl. pl. and *Helenium pumilum*. The only Iris that has dowered the month with its beauty has been I. Kempferi, which in shaded positions by the waterside remained in bloom for the first fortnight. Of Lilies, L. pardalinum has been especially fine, one of the stems being 6 feet 6 inches in height and expanding forty-seven blossoms. L. superbum was poor in comparison, but L. canadense was, as usual, the perfection of grace of form. For colour, no L. approaches the glorious scarlet of L. chaledonicum, which this year has bloomed finely, as has the stately L. Humboldtii, with its orange-yellow, lake-spotted blossoms. *Lychis vespertina* alba plena has extended its blooming period through the month, and L. diurna rosea has also been very showy. The yellow glow of *Linum flavum* has shown little diminution, while in light soil and *Mesembryanthemum* have been broads of glorious colour. *Nicotiana affinis* has made up repaid us in the event, with its delicious aroma for its slightly ornamental effect during the sunny hours. That lovely Evening Primrose, *Oenothera marginata*, with its large white, scented blooms, is as delightful a sight as any to be found in the garden on a July evening, and the tall E. Lamarckiana in the wild garden—where such strong-growing subjects as Inula, *Helenium* and *Tekelia* species have been in flower—has a stately presence in large masses that at once rivets the attention. *Oxalis floribunda* Taita has been a mass of bright colour, and the Tufted Pansies in wet-ground have been very lovely. The Welsh and Iceland Poppies have lasted well through the month, and I saw a splendid specimen of the California Poppy (the peerless *Romneya Coulteri*) in fine bloom towards the middle of July. This specimen had been planted last year, came through the mild winter well, and made strong growth in the spring, some of the shoots at the time of my visit being nearly 8 feet in height. Fourteen blooms were open, some 6 inches in diameter, and the

plant was evidently in robust health. The flowers, though large, being single, are most refined, the crimp-like petals, white as snow, making a delicate contrast with the central boss of golden stamens. Those who are able to humour this glorious plant into good behaviour will be amply repaid for any trouble they may have taken to secure this end. The dark blue *Plumbago Larpentei* has begun to bloom, and *Phytolus capensis* has perfected its rareness of scarlet blossoms, while its cousin the *Pentstemon* has been prodigal in its display of bloom, and the *Polemoniums* have not yet terminated their flowering. The single white *Macractney Rose*, as usual, came into bloom in July, and bids fair to continue in flower until the advent of the first frost. *Rudbeckia Newmanii* and *R. purpurea* are both in flower before the close of the month, as is the handsome *Senecio pulcher*. The pale blue of *Scabiosa caucasica* is a delightful colour, and the plant deserves to be largely grown. In damp situations, however, sharp frosts are usually the cause of heavy losses. The dwarf *Veronica spicata* has commenced to flower in the rockery, its profuse blue creating a peaceful effect. The Willow Herb (*Ephedrum angustifolium*) is often at this season to be seen in bloom in cottage and other gardens. It is, however, out of place under cultivation, but in a marsh of some two acres in extent, beneath a hanging wood, its showy crimson has formed an attractive picture.

The scarlet and yellow flower-heads of *Kniphofia Uvaria* have begun to appear, but many of the plants were checked by the frost of 1895, and with the past dry summer have scarcely yet recovered their vigour. Of annuals, *Lavatera trimestris* has been a great success, and has the additional merit of lasting well when cut and placed in water. The single white *Opium Poppy* have been handsome and festing as usual, but the *Salpiglossis* has surprised us again strength and free-flowering. Great Sunflowers here and there line the walks, and pyramids of Sweet Peas make breaks in the masses of scarlet *Zinnias* and *Begonias*, *Mignonette*, and *Heliotrope*. The Spirases have bloomed well, *S. aristata* being perhaps the most effective, and lasting far longer in perfection in the open than the white palmette flower-sprays of the grand *S. Lindleyana*. The blooms of the latter, however, if cut and brought indoors will be found to be fresh when those of the same age on the shrub are withered and brown. *S. Bumalda* has produced dense heads of rose-coloured blossom, and *S. Anthony Waterer* has also been in bloom. Of climbers, *Solanum jasminoides* is still the most striking, and to-day I noticed an archway white with its flower-clusters. *Physianthus albus* is in fine flower, and *Tropaeolum speciosum* has painted with scarlet a large expanse of wall. The curving sprays of *Abutilon vexillarium* have been studded with crimson and yellow blossoms, while in a valley garden I saw in full bloom against a wall a fine shrub of *Rhynchospermum jasminoides*. *Desfontainesia spinosa* has produced its scarlet-yellow-tipped tubes, the neighbourhood containing a few very fine specimens of this handsome Cuban shrub. *Erythronium coccineum* has in its place been in flower though it is seen at its best during the month of June. The Myrtles are blooming profusely, and in a sheltered garden an Oleander is now in bloom. The Daisy Bush (*Olearia Haastii*) has been a mass of white, while the *Yuccas* have flowered finely and earlier than usual. In one garden *Y. gloriosa*, *Y. glauca*, *Y. flaccida*, and *Y. filamentosa* were to be seen in bloom at the same time. Where these plants are grouped in large clumps of the same variety the effect produced at their flowering time is very fine. The large standard *Magnolia grandiflora* has this year surpassed itself in its wealth of blossom, there being scarcely a shoot that is not terminated by a bloom-bud or flower. To-day more than thirty expanded flowers are to be seen on one side of the tree, some being not more than 6 inches from the ground, while others are at a height of 20 feet. Altogether considerably more than 500 flowers will be borne this year.

S. W. F.

ORCHARD AND FRUIT GARDEN.

EARLY VERSUS LATE KEEPING APPLES.

ACCORDING to my experience, it will pay better to grow early Apples than late ones when the grower, having planted the sorts that are suitable for a particular class of trade, can retail his own produce. I do not think for a moment that there is much profit to be got out of early Apples—at least, not for the grower in what I may call a first-class trade—not will they pay unless the grower is settled in a fairly thickly populated neighbourhood that consists chiefly of middle-class and working people. It is amongst them that the demand for early Apples and other soft fruit exists, and when one can meet this demand with fruit of his own growing, a remunerative price can be obtained, and the earlier and more highly coloured the fruit, the better it will sell. I stated in *THE GARDEN* last year that every season there was quite a rush for the fruit of the Duchess of Oldenburg Apple. It has been the same this year, all my stock being cleared out before it was ripe. The same remarks apply to the highly-coloured fruit of Mr. Gladstone and Lady Sudleye. The handsome appearance of the fruit of these two Apples is their greatest recommendation, quality being only a secondary matter with the majority of people for whom I cater. Another point in favour of these early sorts is that they are heavy and regular bearers. The reason for this is easily explained, because after the fruit has been gathered there is a good half of the summer weather left for the trees to regain their strength. One would hardly think there was room for any improvement or extension in the list of early Apples, but there certainly has been in the introduction of White Transparent, as it embraces the two qualities of being as suitable for dessert as for cooking. This sort belongs to the Codlin type, and is the earliest of them all; as I had some handsome and large fruit ripe this year on July 14, the flesh being soft and juicy and very good in flavour. For cooking this sort must take the lead of all others, as these soft-fleshed Apples are greatly appreciated by persons who dare not think of eating those of a closer texture like the Quarrenden. I intend to increase my stock of trees early in the autumn, and then I shall look for a fair crop of fruit next year. I question very much if sufficient attention has been paid by growers to the subject of planting in particular neighbourhoods the class of fruit suitable for that district. Anyway, I am painfully aware that when I began eight years ago to plant fruit trees for profit I made more than one mistake in the selection of varieties of Apples and Pears. Of the latter I got together at some expense a considerable number of the best sorts known to me as a private grower. Many of these have proved to be of but little value, because they are unsuitable for the class of trade. They are, in fact, too choice, and a suitable market away cannot always be found for choice Pears in limited quantities. In some measure the same remarks apply to Apples. If I had filled my ground with sorts that would be ready for sale during the months of July and August instead of planting so many late-keeping varieties, I should not have had to go to the expense of building a fruit room in which to store them. A collection of Apples or Pears is very well as a hobby, but when one has to look at the stern fact of having to provide rates and taxes and the cost of labour, one can see that it is possible to ride a hobby too far. Before making a selec-

tion it is better to have some knowledge of the demand likely to occur at any particular season and select accordingly.

J. C. CLARKE.

Currant La Versailles.—Like Mr. Crawford (p. 111), I too can say a good word for this valuable Currant. I consider it the best Red Currant grown—all points considered. Some years ago when living in North Hants, on a hot, dry soil not at all favourable to the culture of fruit, I grew this amongst several other kinds, and found it gave by far the best returns. To growers for market it should prove valuable, as the long big bunches so quickly fill the measure. The only fault I consider it has is that it is a strong grower and apt to get broken down and the tree get one-sided.—J. CROOK.

Apple Duchess of Oldenburg.—Dry seasons are evidently to the liking of this handsome Apple, all the trees I have this season inspected carrying good crops of fruit and looking particularly healthy. I lately saw a line of trees of this variety about 8 feet in height which had been transplanted during the latter part of 1895. These looked every whit as healthy and were bearing as many fruits as trees that had been left undisturbed. The taking appearance of this Apple is greatly in its favour, and in towns it sells readily and at remunerative prices. The experience of the past few years gives a special value to varieties of Apples that can stand the drought.—S. W. F.

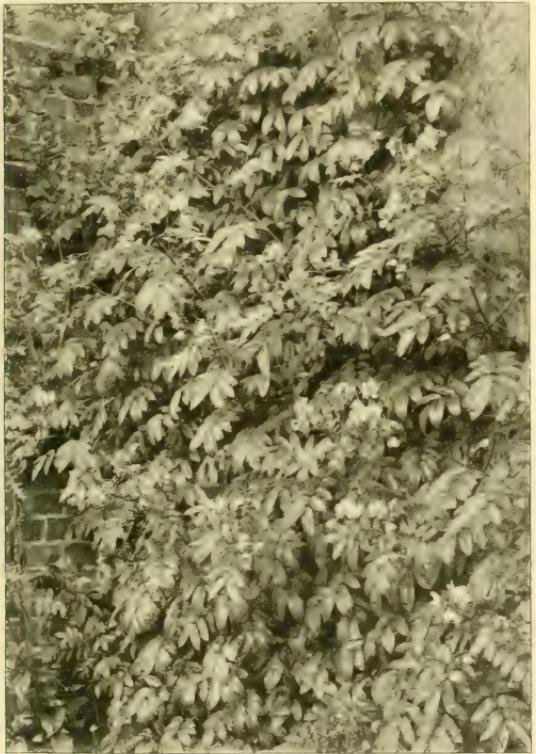
Strawberry Vicomtesse Héricart de Thury (syn., Garibaldi).—It is amusing to find, says Mr. Barron in *The Gardeners' Chronicle*, attention being again directed to the merits of this excellent Strawberry and its identity with other aspirants to its fair name. One could have hoped that this question, once strongly debated, had been settled for ever. But not so. That they are identical there is no manner of doubt; any little difference there may be being entirely due to cultivation. Having had a good deal to do with the Vicomtesse, it may not be altogether uninteresting to your readers were I to relate something of my experiences on the plants raised, although it is not altogether in connection with that of my Edinburgh friends. The Vicomtesse Héricart de Thury Strawberry was raised and sent out by M. Jules, and not by Vilimorin, as stated by Mr. Carmichael. I well remember the following circumstance in connection with this Strawberry: Some time during the summer of 1858, the late Mr. Gilbert, of Burghley, and your present correspondent were one day engaged amongst the Strawberries in the old Horticultural Gardens, when we noticed one variety very distinct in habit from all the others. The late Mr. R. Thompson, on being appealed to, said, in his peculiar manner, "Ah! by-the-by, that's the—" but what he said did not know until next day, when he had it reduced to writing. This next day to be Vicomtesse Héricart de Thury. Mr. Thompson told us it was a variety he had noticed in France on a recent visit to that country, and advised that it should be taken special care of. From that date the Vicomtesse Héricart de Thury Strawberry became one of the most popular of Strawberries. It was largely grown in the Royal Horticultural Gardens, Chiswick, as a main crop variety, and thousands of plants were distributed amongst the Fellows of the Society. A little later on it became a very popular variety for market purposes around Edinburgh, Aberdeen, &c. In 1867 it is described in the pages of *Le Bon Jardinier* with the statement that the cultivation of this variety for market purposes is rapidly increasing. In 1868 a highly eulogistic notice appeared in *Le Journal des Horticultrices*, where it is stated to be grown largely in various parts of the country. The statement that the Vicomtesse Héricart de Thury Strawberry was sent out the same year as Garibaldi, about thirty years ago, is altogether wrong, and has no foundation: the fact being that the Vicomtesse Héricart de Thury as a Strawberry was grown in the Royal Horticultural Gardens at Chiswick, some years before Garibaldi as a Strawberry, or as a patriot appeared on the scene.

STOVE AND GREENHOUSE.

CASSIA CORYMBOSA.

OCCASIONALLY in some old-fashioned garden a large plant of this Cassia may be found which can be depended upon to flower well every summer, and during the winter it is kept in the conservatory, or somewhere just clear of frost. In some of our public gardens, too, it may be seen growing outside during the summer associated with other tender subjects. The excess-

This plant used to be planted out every season in the Royal Horticultural Society's gardens at Chiswick, and flowered splendidly. On the approach of frost the plants were lifted, cut down and potted, and placed in a house with Pelargoniums until required again for the flower garden. They invariably did well treated thus. *Plumbago capensis*, given the same treatment, also flowered splendidly. The plant here figured is growing against a west wall in Major Gaisford's garden at Offington. It covers a space quite 9 feet high, forming a spreading mass of glossy leaves, which greatly adds to the beauty



Cassia corymbosa. From a photograph sent by Miss Gaisford, Offington, Worthing.

sively hot weather of the present season seems to suit it well, for it is quite a mass of its golden blossoms, and bids fair to continue for some time. It is, as a rule, far more frequently met with across the channel than it is in this country. *Cassia corymbosa* is a native of the neighbourhood of Buenos Ayres, and was introduced in 1796. It is of easy culture, succeeding, as it does, in any ordinary potting compost. The principal thing to be observed is the thorough ripening of the wood towards the end of the summer.

of the flowers. It stood the severe winter of 1894-95, but for better protection the shoots had been tied into a bundle. T.

Acacias.—These most useful and highly ornamental subjects are very varied in their characters and time of flowering, and are certainly worthy of more extended cultivation. Few things are more suitable for the decoration of the conservatory, as with a judicious selection of varieties a display of bloom may be had from February to June, and while perhaps the planting-out system suits most of them best, they do capitally grow in pots if

treated liberally. Associated with Palms, Dracemas and other fine foliaged shrubs, they produce a capital effect planted out in raised beds or side borders of large cool conservatories or orangery courts, and some are equally effective when trained up pillars, back walls or trellis work. Some sorts also, as, for instance, *armata*, *debilata*, *grandis* and *Drammondi*, are admirably adapted for cutting, and last well in water in a cool room. Being free rooters, *Acacias* need plenty of pot room and abundance of water when in full growth, ample drainage also being indispensable. They thrive well in a mixture of equal parts of peat and loam, with a free addition of silver or river sand, the more robust varieties doing equally well in loam only, provided it be of a light fibrous nature. When making growth, the treatment usually accorded *Azaleas* suits *Acacias* well, and when this is completed, a month or so in the open air, selecting a sheltered, but fairly sunny spot, will aid in ripening the wood and strengthen the plants generally. The golden colour of the *Acacias* enhances their value, that hue being somewhat scarce among flowers at the period at which they bloom.—J. CRAWFORD.

Standard and trained Fuchsias.—Those who travel through Egham cannot but fail to admire the standard and trained Fuchsias in the front garden of Mr. Wm. Paine, The Limes, the standards being in height from 6 feet to 10 feet and being from ten to twenty yards apart. They have a very imposing appearance, many bearing very fine heads of bloom. There is also a covered bower some 6 feet in width, several feet high, and of considerable length, leading from the front door to the entrance gate. Most of the plants are grown in pots and plunged in the ground. They are not closely pruned in when grown for this purpose, so that they cover the trellis and are effective at once. There are also to be seen Fuchsias forming arches, &c. Fuchsias form capital summer screens and are also very telling when planted in a conservatory and the branches allowed to ramble and droop in a natural way from the roof—in fact, few plants are more effective. Mrs. Marshall, Lord Beaconsfield, and corallina seem to be the best varieties for bower work, having a long drooping habit. For standards, besides those named, may be added fulgens, serratifolia, corymbiflora, &c. Is it not a little singular that the Fuchsia is so neglected as a pot plant at the present day? Some thirty years ago grand specimens plants used to be exhibited, but one scarcely ever meets with anything worthy of the name of specimen in these days.—EDWARD BENNETT, Queen's Road, Egham.

ROCHEAS.

R. COCCINEA and allied species, which are more generally known as Kaloseanthes or Crassulaceae, are among the most useful of winter-flowering plants for pots. The peculiar scent is perhaps obnoxious to some when confined in rooms, but otherwise they may be strongly recommended, as the flowers last for a considerable time and are bright and effective. *R. coccinea* has been neglected, but we now have some hybrid varieties which seem likely to find much favour with market growers. I do not know their origin (perhaps some reader of THE GARDEN can give that information which would interest me and others), but they appear to be intermediate between *R. coccinea* and *R. jasminoides*. Of the three varieties which I have grown, I find Mrs. Wynne is the brightest in colour, M. Buchner, white, shaded red, and W. Pfitzer, nearly pure white. They are all of similar habit, being dwarf compared with *coccinea*. They branch out freely and almost every shoot produces a good truss of bloom. Strong cuttings taken early in the year will make flowering plants for the following season, but to make really good plants it requires two seasons. Cuttings root freely, but, like all succulents, they should be kept quite dry until they are well started. They, be potted singly as soon as they are well rooted, and light sandy compost will suit them. Their cultural requirements are very simple. During

the summer they should be grown out in the open where they get all the sunshine available, and a cool greenhouse where they get plenty of light and air in the winter. *R. jasminea* is an equally useful plant, and should be grown under similar treatment. Some years ago I was acquainted with a variety of coccineum called *Phoenix*, which was of stronger growth, the flowers larger and of a deep fiery-crimson. Though a fine variety it is not so suitable for small pots as the others referred to. I have seen it exhibited as a specimen, and as such it is most effective, but as large specimen flowering plants are rarely met with.

One great recommendation for the *Rocheas* is that they are little troubled with any kind of insects, and, with ordinary treatment and plenty of light and air, they never fail to come into bloom at a season when good flowering pot plants are not over plentiful.

H.

THUNBERGIAS.

How rarely is the South African *Thunbergia alata* and its varieties seen, and yet they were great favourites as greenhouse annuals among the past generation of gardeners. One occasionally meets with them as I did a short time ago in the garden of Mr. Robert Sydenham, of Birmingham, where they could be seen growing in pots upon the lowermost shelf of the central stage where the trailing shoots hung down in festoons laden with charming flowers, the growth vigorous and without a trace of the red spider that is occasionally seen pesting the plant. It is all a question of attention. Starve and neglect the *Thunbergia* and the red spider soon finds a lodging upon it, but grow it generously, giving it the attention it requires and then the results are most satisfactory.

I have just had an indication of the neglect into which this plant has fallen in taking up the seed catalogue of a provincial house having a large connection, and finding to my great surprise there is no mention of the *Thunbergia*. It is difficult to understand this, for some of the varieties are beautiful and the culture simple. The seeds should be sown in a gentle bottom-heat, and as soon as the plants are large enough to be potted off they should be treated as warm greenhouse plants, and be grown on into size until they have made a vigorous growth. All individual plants if potted into rich soil will do remarkably well in a 4½-inch pot, or they may have a size larger; then when they are hardened off somewhat and placed on the lower shelf of a greenhouse stage or employed as a front row to a side stage, where the trailing shoots can hang down and produce their blossoms, they are truly charming. They require to be well looked after in the matter of water, and an occasional stimulant will be found of advantage. The type is *T. alata*, the flat, almost circular corolla buff-yellow, with a dark eye or centre; *alata alba*, white with dark eye; *alata aurantiaca*, deep yellow; *alata Bakeri*, pure white; *Fryeri*, orange with dark eye; *nitens alba*, white, and a new variety of *alata* named *grandiflora*, which is said to produce large light-blue flowers. There is thus an ample selection, and the seeds being moderately cheap are readily obtainable.

I once saw the annual *Thunbergia* turned to excellent account in Messrs. Sutton and Sons' trial seed grounds in the London Road, Reading. The plants, raised from seeds in heat and planted out singly in warm sunny borders and in good soil, had placed around each individual in the form of a circle a few twigs 18 inches or so in height. The plants grew rapidly and in time covered the twigs, and then the leading shoots falling down upon the surrounding soil, they formed a series of dwarf cones, and exhibited to view little heaps of blossom, and very effective they were. It was an admirable way of turning these pretty creepers to account. They are well adapted for planting round large stone vases or basins, and can be employed in many ways, but they must have atten-

tion, and so long as they grow freely they will bloom abundantly, and be free from the attacks of red spider to which they are very subject.

R. D.

Callistemon salignus (*Metrosideros floribunda*), or Bottle Brush.—I have a specimen of this 7 feet high, in a pot standing on an inside border in front of a conservatory. It has rooted into the soil beneath, and flowers most abundantly every year and continues in bloom for a long time, the "brushes" appearing in succession. It will resist several degrees of frost. I have another species raised from seed received from abroad—the Cape, I think. It has longer and very narrow leaves and the "brushes" are much larger and of a more brilliant red, but it is not so free-flowering. One thing detracts from the beauty of these shrubs. The clusters of seed vessels become woody, and so closely adhere to the branches, that they cannot be detached without injury, presenting the appearance of a cancerous growth.—J. M., Charnouth.

Bouvardia Humboldti corymbosa.—Most of the *Bouvardias* generally grown are garden varieties, and of the original species that at the head of this note is met with perhaps more frequently than any other. It is in several respects quite distinct from any of the garden forms, as it is earlier to flower, being now in many instances in full bloom, while the leaves are smooth instead of hairy, as in the others, and the blossoms are deliciously fragrant. The flowers, which are borne in loose corymbs at the points of the shoots, are very large, being nearly 3 inches long and 1½ inches across the expanded portion. It is a favourite flower with the London florists for many purposes, and besides this it will, if planted out, bloom more or less nearly throughout the summer, and for this reason it may be employed for mixed flower beds which are in many instances popular at the present time. The smooth leaves of this *Bouvardia* are not affected by smoky fog to the same extent as those of some of the hairy-leaved varieties are, but even this does not resist smoke at all well. So readily are *Bouvardias* injured in this way, that in the immediate neighbourhood of London their culture has of late years been almost discontinued.—H. F.

The Japanese Wineberry (*Rubus phoenicolasius*).—It seems not a little curious that such an attractive and easily grown plant as this should twenty years after its introduction, be practically unknown. In the last ten volumes of THE GARDEN it is mentioned but three times, once being the occasion of its gaining for Messrs. Kelway a first class certificate at the floral committee in 1892. This *Rubus* is attractive at all stages. The unopened flower-buds have long, slender calyxes deeply bearded with deep crimson glandular hairs, and which persist till the fruit falls; these open showing the tiny white petals within, and soon close to open again, showing the young fruit first yellow, then orange, passing through cherry-red into deep shining ruby, the various tints being present together in each cluster, which consists of twelve to fifteen fruits about the size of an average Blackberry, and which contrast beautifully with the leaves, which are deep green above and pure white beneath. The fruit, which in mid-August is just ripe, is intermediate in flavor (as far as taste of ripening) between the Raspberry and the Blackberry, and forms a welcome addition to the dessert at a time when other small fruits are mostly over. It would, I think, be excellent for jam. The plant when established grows strongly, making canes 8 feet or 10 feet long, and is exceedingly free bearing. A trellis could easily be formed of it, and would, in addition to providing valuable fruit, be most ornamental. All who have seen it here this year, whether in bud, flower or fruit, have been loud in their admiration of it. As to hardiness, my plants were received in the autumn of 1894, and were uninjured by the exceptionally severe winter that followed.—G. P., Monkstown, Dublin.

TREES AND SHRUBS.

THE MONTEREY CYPRESS AT HOME.

One can scarcely imagine that the neat-growing bushy trees of *Cypressus macrocarpa* that are now so familiar to us in the mild parts of these islands can be the juvenile stage of such a picturesque tree as is shown in the illustration, which represents a few of the largest trees in the famous Cypress grove at Monterey, in California. The photograph might easily be mistaken as representing some of the Cedars on Lebanon, or even some of the Stone Pines as seen in the Ravenna forest, or of *Pinus austriaca* on the mountains of Austria.

When I saw the Cypress grove two years ago in an excursion I made from beautiful Monterey my first impression of the tree from a distance accorded with that of Hartweg, who in the first account he wrote of the tree described it as "a tree 60 or more feet high with stems 9 feet in circumference, with far-spreading branches, flat at the top like a full-grown Cedar of Lebanon, which it closely resembles at a distance." It is only when quite near the trees that one can discern the more feathery foliage and small cones, and recognise the characters of *Cupressus*. The grove is a very remarkable sight, but it does not quite accord with the dictionary rendering of the word where unbranched growth and luxuriance prevail. On the contrary, the feeling that steals over one in the Cypress grove is that of loneliness and desolation, where for ages there has waged an unequal struggle between the trees and the unceasing and relentless winds that sweep with full force from across the vast Pacific. It is the winds that hold the mastery over the trees, and the skeletons of a multitude show but too plainly that it is only the very strongest can outlive the struggle. Darwin's dictum as to the survival of the fittest could not be more clearly exemplified than among the individuals of the same species in this grove. The point that impressed me most in this grove, as it did also in the Wellingtonia groves and the Redwood (*Sequoia sempervirens*) forests, was the paucity of young trees. Here and there one sees seedlings in the more sheltered spots, but even these seem to have a hard life of it in the poor soil and wind-swept exposure, and they appear even from their infancy to lean away from their enemy as shown by the clipped appearance on the wind side. Can it be that this tree is slowly, but surely approaching extinction in a state of nature? The species is now, I believe, confined to this small promontory on the American continent, and perhaps, unless artificial means are taken to assist reproduction, it will in a state of nature become as extinct as the dodo. It is very remarkable that both this *Cupressus* and the *Sequoia gigantea* should be confined to such circumscribed areas, whereas other conifers, such as *S. sempervirens*, the Pines, *Abies*, and *Piceas*, seem to grow on limitless areas. The publication of such illustrations as that given here of the adult stages of coniferous trees is quite educational, as it places the multitude of the so-called modern conifers of our gardens in a different light, and probably gives us an idea of how altered will become the landscape in our English parks and gardens a century hence when the adult stage is reached by the species which survive the juvenile stage. None of us will ever see trees of the Monterey Cypress in England so as to be mistaken for old Cedars of Lebanon, but it is a safe prediction that the character of English landscape will be far more changed by the prevalence of exotic conifers in adult growth at the end of the coming century than it has been during the past

fifty years, notwithstanding the fact that the landscape of parks and gardens of to-day is, by the wealth of evergreen growth, so entirely changed from what it was at the beginning of the century.

W. GOLDRING.

Kew.

Hedera Helix atro-purpurea.—This, the best and deepest tinted form of the bronzed Ivy, which is so much used during the winter months, at which time the colouring of the foliage is at its richest, is, during the greater part of the summer of an almost normal green tint, but within the last ten days a large specimen that I have had under my observation has rapidly changed to a bronzy hue, that is to say, all the mature leaves, for the young ones still retain their bright green colour, and consequently they stand out conspicuously against the dark bronzed background. It is really a very pretty Ivy, and in any selection of distinct varieties is well entitled to a place, that

surface of the leaves is of a beautiful purple colour. The growth is very free.

Gold-leaved Box.—This is a splendid little shrub for edging. I saw it in fine form at Chiswick last year. It has a compact habit, and, given plenty of sun, the rich golden colour is very attractive.—P.

Fagus sylvatica pinnatifida.—Assumes a perfect pyramidal form. As its name implies, its foliage has a resemblance to the Asplenium Fern. This Beech is certainly a most striking tree, quaint, yet elegant, and even in mid-winter its russet brown foliage not without a certain charm.

Crateva unilocularis.—Doubtless all this Crateva will easily be finely berried this year, and the above variety will not be the least attractive. Its beautiful chrome-yellow fruit is nearly the size of Siberian Crabs, and its unique palmate foliage has a peculiar woolly appearance.

Diplopappus chrysophyllum.—A pretty evergreen composite shrub that should be more extensively cultivated. It is just now flowering profusely, and the beautiful golden Heather-like foliage is

whether or not a Melon house is used for the purpose, it is necessary that there should always be both ample top and bottom-heat, for it is useless to think of growing Cucumbers without it. There should be a sufficient quantity of piping for top-heating to enable the temperature to be kept up without overheating having to be resorted to during frosty weather. When this cannot be done without hard driving, a plentiful crop of red spider generally results from the arrival of the atmosphere which then obtains, and, be the cultivator ever so careful and vigilant, he cannot keep this insidious little insect at bay under such circumstances.

The kind of house that I prefer for winter Cucumbers is a rather narrow lean-to, partially sunk in the ground to economise heat, with a brick pit in front and a walk along the back close to the wall in order to gain a sufficient head-room for the attendants. The pit should be provided with a flowing return hot-water pipe for bottom-heat purposes, and over them should be laid slabs of wood or paving-stones, some 12 inches or 15 inches above them, to form a hot-air chamber. This would leave ample room for plunging the pots in a bed of leaves where the latter are preferred, and by the same rule there would also be ample space for planting on hillocks of soil where this method is pursued. Cucumbers, I think, succeed much better during the winter months when grown in large pots, as the roots are then more under control, and when once the pots are well filled with roots, the latter may be enticed into the rime if rich compost is placed close up to them. If this is done frequently and just sufficient compost given each time to keep the roots active, it will keep the plants in a healthy bearing condition. The pots should always be placed on a good firm base—bricks are the best—and should be plunged in the leaf-bed, for when the latter decays, the pots will sink with them and the plants will have to be cut loose; otherwise the ties will cut through the vine and cause disaster. Before planting, the house should have a thorough cleaning, and every exposed particle of brick-work washed over for the destruction of concretes and insects, and, if needed, a coat of paint will also effectually put an end to all insects lurking in the cracks and crevices in the woodwork. If insects have been particularly troublesome, a little petroleum should be added to the linewash at the time of mixing. Sulphur is also an excellent antidote for red spider, and this may also be used in conjunction with the linewash. When the house is in readiness the pots should be placed in position, and it is as well to keep them a safe distance from the piping if the latter should be laid round the front of the house. Stand each pot on three or four bricks, and then place the drainage over the outlets and cover this with turfy loam. They will then be ready for the compost, which may be a trifle richer than is generally used when the plants are set out on hillocks. Good sound loam should form the basis, and with this mix a little spent Mushroom manure, also some bone-meal at the rate of half a peck to a bushel load of loam. The manure will enrich the soil and provide something for the roots to feed upon for the present, after which the manure as it decomposes will keep the soil supplied with stimulating plant food until the pots are well filled with roots. Loam of a heavy and holding character may have some sharp sand incorporated with it, or, what is better still, charcoal broken up small to about the size of horse-beans. Loams of a lighter texture will not need an addition of sand, but the charcoal may be included, as it so largely absorbs moisture. Planting may of course be done so soon as the soil has become warmed through, which does not take long at this time of the year; and, if the plants are in readiness, the sooner it is done the better, as they cannot become too well established before the winter. It is only in country districts where leaves may be obtained for packing round the pots, and even then many will have to wait until they fall from the trees before it can be done, owing to want of room for storing a sufficient quantity in the winter-time; but this delay will not matter in the least provided there



The Monterey Pine in its own country. From a photograph sent by Mr. Luther Burbank, Santa Rosa, California.

is where varieties only of medium vigour are required, as it would be overgrown by some of the strong-growing forms.—T.

Hydrangea paniculata grandiflora.—The giant heads of blossom produced by this plant are now very effective, and are alike valuable in the shrubbery border or in beds on the lawn. Some years ago I grew this plant in standard form here and there amid the Rhododendrons on a steep sloping bank, and by hard pruning each year secured some of the finest heads I have seen this plant produce. Doubtless the Hydrangea was much improved by the frequent attention given to it, as it may, the great heads of the above plant modified the monotony of the dark green of the Rhododendrons considerably when those had finished flowering.—E. J.

SHORT NOTES.—TREES AND SHRUBS.

Acer platanoides purpurascens Nizette.—The main portion of the foliage of this is beautifully variegated with bronze, apricot and salmon tints, but generally the bronze tint prevails, whilst the under

parts are charming. I prefer small plants about 2 feet high, as those of a larger size have a rather straggling appearance. This shrub would be a welcome addition to the subjects suitable for sowing beds of Evergreens, and by careful pruning it can be kept fairly dwarf.—E. J.

KITCHEN GARDEN.

WINTER CUCUMBERS.

WHERE Cucumbers are in demand the whole year round it is usually the trouble with most growers to find a way for giving the winter supply either the latter end of July or the first and second week in August, according to locality and force of circumstances. Very often winter Cucumbers have to follow a crop of summer Melons, the planting of the two crops being timed so that they follow each other in due season, and this method is very excellent one, as the house is then utilised to its utmost capacity throughout the whole year. To grow Cucumbers successfully during the three most dull months out of the twelve, it is necessary that a well-heated structure be provided, and

is a good bottom-heat under the pots and the leaves can be placed round them as soon as they are procurable. Falling leaves altogether, litter or stable manure may be employed, but it must not be too fresh, otherwise it will heat violently, and the gases given off will work mischief with the inmates of the house. If manure alone has to be used, it should be thrown together and allowed to heat some days before taking it in, on purpose that the rank gasses may be dispelled beforehand. Even then it must be watched in case it heats too much and scalds the roots through the sides of the pots. If found to be getting too hot, the manure should be cleared away from the pots until such time as it is deemed safe to put it back again. Watering and syringing and other matters of a routine character need not be touched upon in this note, but a few words on top-dressing may be useful. This should be made richer and more stimulating than the compost provided for placing in the pots, and it may therefore have more spent Mushroom manure and bone-meal mixed with it, and, for a change, dried horse droppings may be used instead of the ingredients mentioned. The loam should be fibrous and airy, for in loam of this description the roots of Cucumbers fairly revel, and the longer they can be kept at work rooting into, the more astonishing how productive the plants are. Soil for top-dressing is best mixed with fine large quantities and bone-meal then becomes partly decomposed before the soil is made use of, and is then in a more available form for assimilation by the roots of the plants.

With respect to varieties, the old Syon House is still preferred by some, but this is now superseded by that fine market variety The Rochford, which is undoubtedly the finest Cucumber for general purposes that can be grown. A. W.

Cucumber Royal Windsor.—Since this variety—one of Mr. T. Lockie's raising—was put into commerce some years ago by Messrs. Sutton and Sons—and since that time several new varieties have been certified and sent out—it is doubtful if a variety bearing more handsome and shapely fruits than Royal Windsor has ever been put into circulation. Messrs. Wood and Ingram grow at their nurseries at St. Neots Cucumbers largely for seed, and they have at the present time a house of Royal Windsor which presents this variety to view in the best light. It is a good grower and remarkably free, and at the present time it is maturing a heavy crop for seed. Planted out in rough wooden boxes, 2 feet or so in width and from 15 inches to 18 inches in depth, the shoots are trained up the interior of the roof, and with good attention do remarkably well. With an occasional dressing of some artificial manure, the plants are maintained in vigorous character and excellent crops of seed are realised.—R. D.

FRUIT AND VEGETABLE CROPS.

WESTERN.

Shirburn Castle, Tetworth, Oxon.—Apples are under average and will be small. Pears average. Plums under average. Currants of all sorts plentiful. Strawberries have been very good owing to their having been well watered. Dr. Hogg I cannot grow. Royal Sovereign I have not fruited outside yet, as I had all the flowers taken off for getting early runners. Indoors it has no equal, and Scarlet Pearl is very good as a forced Strawberry. The Vicomtesse H. de Thury does not throw up its flower-stems to suit me, but still it is a good cropper.

Potatoes are very good. Sharpe's Victor as a first early has no equal. I have not heard of any disease in this neighbourhood yet.—W. M. G. L.

Croxtton Park, St. Neots.—Apples very much under the average, owing, I think, to the

enormous crop of last year. Peaches, Nectarines, and Pears good average. Plums and Apricots very thin indeed. All small fruits above average. Strawberries good heavy crop, but soon over owing to dry weather.

All vegetable crops are excellent, especially Runner Beans, Onions, and Potatoes. Potatoes at least three weeks earlier this year. Early Peas were good.—W. H. GASCOINE.

Glewston Court, Ross.—The Apple crop in this district is under the average. Pears very good and clean. Plums average, but small, owing to the drought. Cherries average and good. Peaches and Nectarines under average. Apricots average and good. All small fruits average, but very small, and also Strawberries. Nuts very good.

The vegetables in this district are all suffering very much from the drought.—C. A. BAYFORD.

Rood Ashton, Trowbridge.—The bright prospects of the spring have not been realised, both as regards fruit and vegetables, the most noteworthy perhaps being Strawberries, Raspberries and Peas. Strawberries while in flower escaped injury from frost, which usually occurs at about that season, and the plants possessed vigour in fruit and leaf, which was sustained until ripening commenced, when from want of rain or artificial watering they collapsed without maturing more than two-thirds of their crop. Lettuce and Radish was all out but variety, and the young stock of Turnips and Asparagus lost its tinge and character were altogether out of harmony, as first berries ripened almost simultaneously with Nobles. The last named is being ousted by the better Royal Sovereign, which comes almost or quite as early. Sir Joseph Paxton, Alice Maud, President and Countess were our other best sorts. Raspberries were very healthy and flowered profusely, but the prolonged drought set up premature decay in the canes, and the later fruit did not swell at all. Gooseberries have been a heavy crop, and caterpillars have been more than usually abundant. Black Currants, too, are good, but red and white have been light. Peaches outdoors are a good crop. Apricots light, though variable. Plums generally are a full crop, requiring thinning in a green state, and the same remark applies to Cherries, both Morello and dessert varieties. Pears are in some cases a full crop, notably Jargonelle, Williams' Bon Chrétien, Doyenne d'Eté, Beurré Clairageau, Pitmaston Duchesse, Winter Nellis, Doyenne du Comice, Beurré Capiaumont, Seckle, Althorp Crassane and Emile d'Heyst. Apples in garden and orchard vary very much, the maggot doing considerable mischief among the open flowers. Stirling Castle, New Haworthden, Echlinville, The Queen, Cox's Orange Pippin, St. Edmund's Pippin, Beauty of Bath, Lord Lippitt, Duncombe's Seedling, Adams Pearmain, Worcester Pearmain, Manningtree in Pearnain, Lord Suffield and Gravenstein are bearing good crops. Nuts, both Filberts and Walnuts, are plentiful. Quinces are scarce and Medlars a fair crop.

Vegetables are becoming scarce, the drought causing an absolute check to growth. Potatoes are ripening up very fast, while the growth has been much more moderate than usual, and, necessarily, a light crop follows. Late-planted tubers in the field and allotment gardens are very patchy, many never showing above ground. These and mid-season varieties must produce but poor crops, except in districts where thunderstorms have been frequent. In this district the average rainfall for the past six months has been less than 1 inch per month, the total being only 5 69 inches or less by 3 1/2 inches than last year for a corresponding period. Peas are suffering badly; many sowings hereabouts have given but scant crops. The early batches did particularly well, the mild spring and the March rains suiting them splendidly. Early Cauliflowers did equally well, but there is no succession possible. Cabbages have been good, but are now much infested with caterpillars. Turnips cannot grow well, like the Onion flowers, were good in the early summer. French Beans have done good service. Runners up to the present are not setting well, although their

growth has been satisfactory. Onions, considering the dry state of the soil, are looking well, and in our case show a decided proof of the value of deep cultivation. Lettuces have given much trouble in keeping up a supply, and this, unless rain comes quickly, cannot be maintained. Altogether, the season is one of the most remarkable, and will not readily be forgotten.—W. STRUGGELL.

Witley Court, Stourport.—The Apple crop is almost a failure in Worcestershire, the heavy crop of last year possibly accounting for this. In this garden there are a few exceptions, and this amongst young and vigorous bush trees. On looking over these I find a few varieties are carrying fair crops, and the fruit individually will be fine. These are King of the Pippins, Peasegood's Nonsuch, Stirling Castle, Lane's Prince Albert, Devonshire Quarrendon, Alfriston, Ecklinville, Professor, Tyler's Kernel, The Queen, Summer Golden Pippin, Kerry Pippin, Kewick Codlin, Benoni, and a few others. Pears against walls are a complete failure, whilst in the open trees are carrying a fair average crop. Very large trees of Perry varieties which last year bore well are a scanty crop, fact, being comparatively fruitless—are this season. Plums are also failing. Plums are a very heavy crop, also Damsons. Damsons in some of the farm and cottage gardens are much blighted; consequently the crop will be scanty. Cherries have been good, the fruits individually being very fine and clean. Peaches and Nectarines are carrying heavy crops and the trees are clean. Alexander was gathered from a tree growing against a south wall on July 1, the fruit being large and of good quality; in fact, I am quite pleased with this variety, and consider it well worth growing. Strawberries a good crop, the quality also being excellent. These, of course, had to be watered. Gooseberries have borne heavy crops of fruit; so have Red and White Currants. These latter are of exceptional size and very bright in colour. Black Currants are partial; for instance, in one portion of this garden, where the soil is of a holding nature, the bushes also being partially shaded, the crop is everything that can be desired, the bunches being large and the berries individually fine, whilst in another portion, the soil being light and the trees more exposed, the crop is scanty. It is the same in neighbouring gardens. Raspberries a fair crop, but the weather is too dry for these, birds also being very troublesome. Nuts will be good. Filberts exceptionally well.

Considering the season, vegetable crops on the whole are good, Turnips being the worst. Potatoes are very good, both as regards crop and quality. First and second early Peas have done capitally, but mid-season and later varieties are affected by the drought. They seem to be covered with small thrills, although well watered both at the root and overhead. Onions free from maggot, also Carrots. Early Cauliflowers have been abundant, but summer supplies have buttoned. French Beans and Runners are also good, but all succulent vegetables have had to be both frequently and freely watered.—A. YOUNG.

Crichel, Wimborne.—Considering the extraordinarily dry season we have experienced around here, fruit and vegetable crops are very fair. Bush fruit of all sorts is very good. Apples and Pears are much below the average, owing to slight frost during the flowering time. Plums also suffered, but are fair crop. Strawberries fruited well, but fruit rather below the average in size. Raspberries are good. Peaches outside are under the average.

Vegetables are very fair, but thanks are due chiefly to the water carts. Autumn-sown Onions, Shallots and spring Cabbages have run to seed wholesales. Peas have suffered much, and speak of their respective qualifications would be unfair criticism. I find Veitch's Selected Early, Telegraph and Duke of Albany are the best. Turnips are very fair, and when after toughened will be the very best when they come to be dressed for the table. We are pestered with insect life, owing, I suppose, to the very mild winter and

the dry spring and summer months, each variety of fruit tree having its own particular enemy. In many cases around here, where due precaution has not been taken to check the ravages of blight, &c., whole crops have been entirely spoilt, especially the Bean crops. Until we get a good rain, crops in general will yet suffer much. As an instance of the dryness of the soil, I had a piece of ground dug up where Cauliflowers had been growing, and I foot from the surface it was perfectly dust-dry. The same comments apply equally to the neighbourhood of Criche. —P. ISHERWOOD.

Ashton Court.—The fruit crop in this district has this year been very light; many market growers have sad tales to tell of the losses they have sustained owing to the hot, dry season. Strawberries have been of short duration this year. They came in early and were soon over; even the latest sorts finished their fruit of very suddenly, and although it has been an under-average crop, the quality has been very good. Raspberries have been a very light crop and the fruit small; hundreds of canes, after commencing to grow in the spring, died back to the ground. Currants have been good in some parts of this district, while in others the crop was very light. Gooseberries have been an abundant crop, and seem to have felt the dry weather less than any of the small fruits. Plums are a good crop; many trees are breaking down with the weight of fruit, although generally it will be small. Apples and Pears are a very scanty crop. The Codlins have a good sprinkling of fruit, but many of them are falling off, being attacked so severely by the maggot. A few large trees of Pears are to be seen here and there carrying a lot of fruit, but they, too, are small.

In looking round the kitchen garden one cannot find a single quarter where the crops are flourishing; almost everything is drying up. The various kinds of Brassicae have been planted over and over again, only to be burnt and dried up. Dwarf Beans are turning yellow, although only just commencing to bear. Broad Beans are nearly done, Beetroot, Carrots, Onions, Parsnips, all sharing the same fate. Potatoes that were planted very early did well. Midseason and later sorts are drying up and the crop is exceedingly light.—H. NOBLE.

Killerton, Exeter.—Peaches and Nectarines are a good crop and the trees healthy, although they were much blighted at the early spring. I gathered Early Faversham and Early Rivers the early part of the month, and am now (July 18) gathering Hale's Early. Apricots have been fine and good, but the crop is below an average one. Early Cherries were good, but Morellos are moderate. Plums are good. Early Prolific and Prince Englebert are very heavily laden with fruit on standards in the orchard. We are now (July 18) gathering Early Prolific quite ripe. Apples are below an average crop, although there was plenty of blossom, but the continuous dry east wind at the time and the long drought ever since have had an adverse effect on the crop. Dunelouw's Seedling is one of the best, although the trees carried fine crops last year. Pears are a partial crop. Strawberries have been very good, but are now over. I began picking Noble and Black Prince on south borders in the third week of May. Currants, Red, White, and Black, also Gooseberries, are all very good crops. Raspberries have been very good, but are almost over. Figs are an abundant crop, especially Brown Turkey, White Marseilles, and Brunswick. Filberts and Cobnuts are very plentiful.—J. GARLAND.

Bickton, Budleigh Salterton.—Apples below the average; trees infested with insects. Pears average crop and trees fairly clean. Peaches and Nectarines under average, especially on an east wall, owing, I think, to east winds when in bloom. The trees on south walls are carrying good crops. Apricots under average. Plums average. Cherries, sweet and Morello, good crops. Strawberries good crops, but owing to the severe drought could not swell or ripen. Gooseberries abundant. Raspberries excellent crops, especially

superlative, which I consider far in advance of all other varieties. Currants, Red, average crop, but not so large. Currants, Black, very scarce, and a lot dropped off.

Vegetables are very scarce just at present. Early Potatoes are fairly good and free from disease, but I am afraid the later ones will be poor, as they have had scarcely any rain since they were planted. Cabbages were early and good when first coming in, but are now infested with caterpillar. I never had so many bolt as this spring. Ellian's Early behaved the best. Cauliflowers are scarce owing to drought. Onions, Carrots, and Beets are looking well in spite of the dry season. Asparagus was very good, but all crops are now suffering from want of rain.—J. MAYNE.

Weston Birt.—The fruit crop in this locality is on the whole an average one, but, owing to the dry weather, is far from being first-rate in quality. Apples, both trees and fruit, are very clean, in fact, much cleaner than I have seen them for years. Annie Elizabeth, Cox's Orange Pippin, Frogmore Prolific, Herefordshire Pearmain, King of the Pippins, and Stirling Castle have to be thinned. King Pippin does well in this part of the country, size and shape excellent for the dessert table, flesh tender and juicy. It is a good keeping variety. Pears are under average, especially on walls. Espaliers and pyramids, though covered with bloom in the spring, set badly. Williams Bon Chrétien, Louise Bonne de Jersey, and Bourde de Capiaumont are bearing the most. Thompson's own on wall and trees, a failure. I find this Pear in our locality does best in a damp season. Plums are an average crop, standard Victorias in sheltered positions being loaded with fruit. Damsons are not so plentiful. Apricots average, but small. Cherries set abundantly, but very few swelled. Morellos on north wall are very good. Peaches and Nectarines above average—have to be thinned. Sea Eagle is an excellent Peach for outdoor work, especially in this neighbourhood, where we have the natural lime in the soil; we rarely have the fruit drop or the stone split. Hale's Early is grown in amateurs' gardens and very good fruit is picked from the trees. Pitmaston Orange Nectarine, too, does well here, but the trees on a south-west wall have the best fruit, ripened out more evenly. Figs are an average crop. I protect the trees with Spruce boughs during the winter months; this prevents the wood made the previous year from being killed by the frost, and the embryo fruit awakes and we get good crops during the months of September and October. Strawberries very good. Our soil, being of a stiff clayey nature, suits them well during a warm, dry season. I usually force La Grosse Sucrée as an early variety, Crescent Seedling as second early, Auguste Nicaise, John Ruskin, and Sir John Paxton. Noble I grow, but have discarded it. It is handsome to look at, but flavour quite second-rate. I usually plant out my forced plants, and these bear good fruit the next season. Crescent Seedling is an excellent outdoor Strawberry. Auguste Nicaise fruits well, but the first rain mildews the fruit. President and Sir Joseph Paxton are the two best varieties I grow, especially the latter, as it packs and travels well. I am growing Royal Sovereign, so shall be able to report upon it next year. It is only once in five years we can get good fruit of British Queen, and then no Strawberry I grow can surpass it in flavour. Bush fruits are abundant, but fruit small and very acid, and ripened much earlier than other years. Currants La Versailles and Baby Castle are good late red varieties; White Dutch is the best white one. Jack Napier is unmercifully small this year. I am discarding this one and growing only Carter, Charentais, Black, Gooseberry Whinham's Industry is the best variety for packing, and Golden Drop for preserving. These I plant in a portion of the garden by themselves; they can then be picked early and so save having to net so many from the birds. Raspberries Semper Fidelis and Superlative are the two best and the most productive that I grow. Walnuts and Nuts under average.

Potatoes are good. The old Ashleaf is largely grown in this neighbourhood and stands first for flavour; Sharp's Victoria both for forcing and early work, is a good variety; Puritan on not too rich ground is good, size large and plenty of them; Sutton's Seedling is a first-rate variety where dug early it keeps. Sutton's Abundance, Magnum Bonum, Scotch Champion, and Windsor Castle are the chief sorts grown for late crops, and the last one is an excellent cropper, medium in size, quite free from disease in allotments and fields, quality first-rate.—A. CHAPMAN.

Brockhampton Court, near Rose, Herefordshire.—Apples and Pears on espaliers, half standards and small bush trees are a fairly good crop, in a few instances very good, but orchard trees are very bad in this neighbourhood. Pears are quite bad as Apples. Plums a very heavy crop. Damsons fair. Gooseberries very good. Red Currants fair; Black Currants very scarce. The same may be said of Cherries. There was a good bloom, but we had several late frosts which crippled it, and caterpillars were abundant, many trees being almost stripped of leaves. Strawberries were good early in the season, but this garden being of a sandy nature the continued drought destroyed the fruit of the later varieties. Apricots and Peaches are a fair crop. Earwigs are very destructive.

The weather has been very much against the vegetable crops, for we have not had enough rain to reach the roots. Early Potatoes were abundant, but very small, and I am afraid the late ones will be a poor crop. Dwarf Beans were good, Cauliflowers very much deformed. We had a grand lot of Peas up to the end of June, but since then they have done very badly. They have not grown half their usual height, and are, in fact, almost a failure. We have several rows of late ones looking very well, and if we could have some rain we should have a nice crop.—A. EAST.

EASTERN.

Livermere Park, Bury St. Edmunds.—The fruit crop is not heavy, but quite heavy enough for the trees in such a dry season, and there is reason for congratulation in the fact that there are no complete failures. Heavy crops would have led this year to undersized fruit in places where thinning is impossible, so the comparative thinness is likely to prove in many instances a blessing. Apples are with us somewhat under average, and those carrying heavy crops are Ribston Pippin, Wellington, Cox's Orange, King of Tomkins County, and Striped Beauhn. A good mulching of manure and top-dressing of burnt earth did the trees much good, and has undoubtedly prevented much of the fruit from dropping. We are not yet, however, safe from this, for every day the drought searches deeper. Trees in this neighbourhood were sadly injured by various grubs and caterpillars, in many cases to the entire destruction of the crop, and the effects still show badly on the young wood being made. Pears are decidedly a light crop, especially on trees which bore well last year, the fruits individually are fine and should bear extra good, judging from past experience of similar seasons. Exception to the general lightness of crop are found in Bosc Bon Chrétien, Duchesse d'Angoulême, Bourré d'Amiens, Concessaire de la Cour, and Napoleon. Plums are very partial; some trees are heavily laden, others, mostly bush trees, have very few fruits. The best are Washington, Jefferson (almost always good), Angelina Burnett, and Goliath. The Plum aphis has been particularly bad this year, and lack of heavy rain has intensified the nuisance. Apricots a fairly heavy crop, and the fruits good where watering has been possible. These, like Plums, have been badly infested with aphides. Peaches promise well with me, but I notice much blister in the neighbourhood. In one garden where, I am told, it has never been troublesome before, it is especially bad. Cherries (sweet) the heaviest and best crop I have known here. Cherries (Morello) under average and inclined to be small. Black aphis very troublesome

this year. Raspberries, a full average crop of fine berries, season likely to be rather short. Currants (Black) a very fine crop indeed. Currants (Red and White) somewhat under average, and the bushes much infested with aphides. Figs, outdoor trees, have not yet got even being cut to the ground with the frost of 1894-95. Grapes, a good promise of outdoor fruit; Medlars, average crop; Damsons, very thin crop; Quinces, thin crop; Walnuts, average, some trees heavily laden; Strawberries, though they suffered somewhat from the drought, were a very good crop. As was to be expected, young plants did best. Royal Sovereign is grand addition to our varieties, and will find her place in gardens. Early and second early Potatoes did well, but the present outlook is bad for main-crop varieties, and in many cases they are beyond recovery, even should rain soon come in quantity. I hear good reports from the Fen districts and also from other places, so the dearth will be locally, and is confined mostly to field crops. Vegetables generally are doing well, but have required far more than the usual amount of care in watering and mulching. The most notable results of the season with vegetables are the earliness and plentifulness of Globe Artichokes, the collapse of June-sown Spinach, and the presence of black aphides underneath the leaves of all large-leaved plants, which is little less than a plague throughout the whole neighbourhood. Tomatoes are again having a grand season and are doing well.—J. C. TALLACK.

Ashwellthorpe Hall, Norfolk.—In this district most of the crops may be termed above the average, Apples especially. Trees of the following kinds are loaded with fruit: Blenheim Orange, Ribston Pippin, London Pippin, Dr. Harvey, and Norfolk Beauvin. Early Pears are rather scarce, but we have promise of good crops of the later kinds. Cherries have done well this season. We have had large crops of fruit and the flavour was all that could be desired. Plums, especially Victoria and Green Gage, are carrying good crops of fruit, but I am afraid if the drought continues it will prove too much for them. Peaches and Nectarines on the walls are a good crop. Apricots are abundant. This, I think, is owing to the past dry season; the wood being ripened, growth being now shown in all this way. We are quite the reverse to what we get after a wet time. Raspberries are grown very largely in this neighbourhood. These promised well, but owing to the drought much of the later fruit shrivelled up, which is telling sadly against the market-gardeners. All kinds of bush fruit have done well, especially Gooseberries and Black Currants. We have very heavy crops of Whinham's Industry and Keepsake Gooseberry, and Black Currants on the north border have been exceptionally good. Strawberries were a very fair crop, the following kinds doing best here: Royal Sovereign, Noble, Vimontesse, and Sir Joseph Paxton, the long-continued drought being too much for the later sorts. Nuts of all kinds are very abundant.

I am sorry I cannot speak favourably with respect to crops in the vegetable garden. Early Peas did well, especially Veitch's Chelsea Gem, and, for mid-season, Veitch's new Pea Maincrop has done splendidly, carrying a heavy crop and retaining its colour up till the last. Late sorts are almost a failure, and unless we get rain shortly Peas will be over by the second week in August. Crops of early Potatoes are very light indeed, but the quality is all that can be desired. The tops of late Potatoes are dying off fast. I am afraid this crop will be below the average. Onions and Carrots are doing very fairly well. All the Brassicae family are suffering very much from want of rain, and the Celery maggot is making its appearance in several places.—T. B. FARNHAM.

Haverholme Priory, Sleaford.—The fruit crop here this season I consider a good average. Apples, especially early varieties, are over; mid-season and late slightly under average. Our best crops are Lord Suffield, Lord Grosvenor, Stirling Castle, Pott's Seedling, &c. Pears are good, especially Citron des Carmes, Doyenne

d'Eté, Williams' Bon Chrétien, Jargonelle, Marie Louise, Louise Bonne de Jersey, Beurré Diel, and Bergamote d'Esperé. Bush fruits have been fairly average, but have been extra fine. Strawberries were soon over, and late fruits were very small. Peaches, Apricots, and Cherries, especially Morellos, are good average. Plums—Early Rivers, Kirke's, Jefferson, and Green Gage, are heavy crops on west vegetables.

All vegetables look well on the heavier land, but Peas are light on shallow soils. Early garden Peas were splendid crop, but midseason and late are very light. My favourite Peas are still William the First, Dickson's Favourite, and No Plus Ultra. Selected strains of these three are, in my opinion, for house supply, bad to beat.—J. CONWARD.

High House, Campesey Ashe, WICKHAM MARKET.—

The crops of fruit here are very good. Pears good, also Apples, Plums, Cherries and Nuts. Walnuts heavy crop. Gooseberries and Black and Red Currants extra good. Raspberries fair. Peaches and Nectarines on wall very good. Figs good crop. I think Apples and Pears round here this year are very fair crops.

The Peas that suit here and do well are Carter's Lightning and Addison's Early May. Sharpe's Queen and Daniels' Matchless Marrow are extra good and grown in several gardens.—ALFRED ANDREWS.

Coldham Hall, Bury St. Edmunds.—

As far as I have opportunity for seeing, the fruit crop in this neighbourhood may be classed as a good average, and with regard to vegetables, I should say they were never better in medium and heavy soils that are well cultivated. Here small fruits of all the kinds we grow have been abundant and good, and although, owing to the great heat, Strawberries were soon over, the quality of the fruit has been excellent. Red Currants are rather short, but White and Black are about an average crop. Gooseberries a fair crop, but the fruit in most cases rather smaller than usual. Raspberries have been, and are still, an exceptionally good crop, the fruit very large and of excellent quality. Plum trees are heavily laden with fruit, but so badly infested with blight as to be almost a failure from a cultural point of view. Apples very good, though not equal to the old varieties. Pears are much better on walls and espaliers, but by no means a full crop. Peaches and Nectarines outside and in are a splendid crop, and the trees are full of healthy growth, hard and solid looking. Walnuts an immense crop, and Filberts very good indeed.

The drought has been against late Peas, especially on light soil, but early and midseason kinds have borne heavy crops of good quality. Chelsea Gem, William Hurst, Ringleader and Sutton's A are good early Peas. Duke of Albany, Telephone, Sharpe's Queen, Yorkshire Hera, and Duchess of Edinburgh are good midseason varieties, while for late sowings I can find nothing to beat Autocrat, a really good and handsome variety that should be grown by all. With regard to the general vegetable crops, they are good where the soil has been well manured, but on poorer ground there are a failure, as they must be in all dry seasons. Carrots and Turnips are the worst among the roots, while Beet and Parsnips are the best. Potatoes of the earlier kinds were a short crop, but later ones are lifting well, and the latest varieties are apparently doing very well indeed. Salads and all green crops have been very good, but Broccoli and other winter greens want rain badly.—H. RICHARDS.

Shrubland Park Gardens.—As a result of the hot summer of 1895, there was a most splendid show of bloom this season, but in consequence of spring frost and insect pests exceptionally few cases of Apples and Peas were not borne realised; we had a very poor crop. Cherries were not bore realised; they were in many cases completely defoliated. Cherries and Plums are plentiful on both bushes and wall trees. Apricots a medium crop. Currants and Gooseberries abundant. Raspberries scarce. Strawberries have been re-

markably good and abundant. The sorts grown here are Noble, British Queen, Dr. Hogg, James Veitch, John Ruskin, Sir C. Napier, and Vicomtesse Héricart de Thury. This is one of a few places where British Queen does well; it is prolific, of fine appearance, and fully bears out its character as to flavour. Nuts are a heavy crop.

Vegetables have been and are plentiful, but the labour to produce them has been great in consequence of the drought. Peas have done fairly well grown in trenches. Early Potatoes are a good crop. The late sorts are looking well and there is as yet no trace of disease. All kinds of the Brassicae tribe are doing well, as also are Onions, Beet, and runner and broad Beans.—G. TAYLOR.

GARDEN FLORA.

PLATE 1080.

HYBRIDS OF NARCISSUS POETICUS.

(WITH A COLOURED PLATE OF NEW VARIETIES.)

The Poet's or Phœasant's-eye Narcissus has had a very conspicuous share in the production of the manifold variety of cross-bred Narcissi which has bestowed so much of new beauty upon the English spring garden. Pretty or stately as are the trumpet Daffodils in all their sizes and tints, from the tiny minimum to the regal maximum or the great bicolors, yet there would be something of sameness in them were we without the immense further range of shape and colour in cup and petal which has followed their intermarriage with *N. poeticus*—the host of *N. incomparabilis* and Barri, with the infinite gradations created by the further crossing of these seedlings with the trumpets and poeti-

cus. These hybrids are of exceeding value, as being on the whole much more liberal in bloom and increase and of sounder constitution than the trumpet Daffodils, an accession of vigour which they derive from the *poeticus* parent. This is very apparent in *N. Leedsi*, a group of lovely pale Narcissi which we have gained from the alliance of *N. poeticus* with the white Daffodils—*N. cernuus*, *albicans*, &c. The latter are in most gardens the most delicate and fastidious of their race, yet many of the *N. Leedsi* are as robust and free flowering as can be desired. In raising seedling Narcissi, the rule will be found generally true that the nearer we approach the poetiæ the stronger is the plant. Hence, secondary crosses, such as that between *N. incomparabilis*, itself a hybrid, and poetiæ, are of great value. These also offer the readiest means of attaining to the most brilliant possible scarlets and oranges in the Narcissus, by infusing again the red of the eye of the poetiæ into high-coloured hybrids which have already derived their colour from a first cross with the same species.

The flower at the top of the plate has gained its cup of apricot-scarlet from such a double or cumulative cross. The yellow-cupped flower beneath it is an instance of a

* Drawn FOR THE GARDEN BY H. G. MEON from flowers sent by Rev. G. H. Englehart. Lithographed and printed by J. L. Goffart, successor to Gailliaume Severyns.



HYBRIDS BY JOHN DODD & SONS LTD.

similar effect upon the perianth by this repeated crossing. It has a perianth as purely white as that of the poeticus itself—a rare feature in these hybrids and only occasionally obtained by stamping, so to speak, the perianth of the poeticus upon an incomparabilis already whitened by the first cross.

It is strange that the earlier workers among the Narcissi made apparently no attempt to improve the Pheasant's-eye pure and simple. In purity and fragrance it is the most attractive of its genus, and my own experiments are showing me that by careful and patient intercrossing of its existing forms and by seed selection it is as capable of enhancement in size and in colour to the eye as any other Narcissus. I have in my garden, and have from time to time exhibited, solid-petalled, well-formed flowers almost twice the size of the well-known poeticus ornatus and with large eyes deeply suffused or margined with fiery red. These new Pheasant's-eyes are also of value because they bloom between, or in succession to, the kinds already in cultivation. Three of these have been faithfully drawn by Mr. Moon in the accompanying plate, though from flowers which had stood all day in a hot show-room, and are therefore not so firm, flat, and round in appearance as when fresh. The flower on the extreme right had for one of its parents the late-blooming poeticus recurvus, and is intermediate in its period of flowering between that and ornatus.

G. H. ENGLEHEART.

THE WEEK'S WORK.

HARDY FRUITS.

EARLY PEARS.—Those that ripen at this time of the year are usually much better flavoured if allowed to hang on the tree than required for use. Great care, however, will be needed in handling, as the least rough handling will cause them to rot. If a basket is used in gathering, this should be lined with paper to prevent the twigs from bruising the fruit, for quite as much care should be exercised with these as is necessary with Peaches. Jargoneilles have been exceptionally fine this season, especially those from an eastern aspect. To prolong the time this kind is in use, if only one tree is grown, a portion of it should be shaded from the bright sun previous to the fruit commencing to ripen. Beurré Giffard is also a good Pear if treated in like manner, but soon goes sleepy if gathered and ripened in the fruit room. The earliest and finest fruit of Williams' Bon Chrétien on south walls will soon be showing signs of ripening; such should be gathered and placed in boxes and kept in the dark till required for use. Clapp's Favourite and a few others growing against south walls, which ripen at this time of the year, are better for being gathered a few days before they ripen, as the heat from the walls seem to extract their juice and cause them to eat wolly. The same may be said of some varieties of Apples, while others should be soon lost all their development. Devonshire Quince, Irish Peach, Kernow Pippin and Lady Sudbury are all improved by being allowed to remain on the tree till fully ripe, while soft varieties should be gathered a few days before being eaten and taken to a cool place, especially if the weather be hot. They ought, moreover, to be removed from the trees early in the morning while cool, for if we should experience a season like the last, where the soil is poor many of the early Apples will be scalded by the sun. There is quite as much art

in preserving fruit as there is in growing it; therefore during a season like the present when it is not over-plentiful, pains ought to be taken to prevent any from being spoilt. Where not already done no time should be lost in covering the trees with nets, for never have the birds been more troublesome than this season, nothing coming amiss to them. The blue-headed tit commences to pick holes near the stems while the fruit is quite hard, and will soon spoil sufficient to pay for protecting it. Continue to water trees that are carrying crops, there not having been anything like sufficient water to go down to their roots. It is useless to give driblets to the surface; sufficient should be afforded to penetrate the soil to considerable depth, as we may still have some dry, hot weather to contend with.

GRAPE ON WALLS.—The fruit in favoured districts will now be showing signs of ripening. In order that the bunches may be assisted by the heat of the wall, remove all lateral shoots, and may be allowed to grow through neglect, or other cause, but do not expose the bunches that have been shaded to the bright sunshine, as this would cause the berries to scald. The roots must receive attention in the way of watering where the soil has become dry, not only close to the wall, but some distance away.

RASPBERRIES.—Varieties that have finished ripening their crop should have all the old canes removed, that more light and air may be admitted to the young ones in order to thoroughly mature them. Where they are grown in clumps, the young canes should be drawn together to prevent breaking down by the wind; at the same time, care should be taken not to injure the foliage, or the buds will fail to push in the spring. If single rows are cultivated, thin out the young canes to the required distance, then tie them loosely up to the wires. Do not shorten their growth, as this would induce some of the buds to push, which would in all probability spoil the prospects of the crop for another season. Encourage the autumn-bearing kinds by liberal waterings, particularly where the soil is dry, otherwise the crop will be a thin one and the fruit of poor quality.

BLACKBERRIES.—These have done well this season, and are now giving an abundant supply of fruit. It is rather strange that they are not more grown considering the quantity that may be raised from a single bush. There are out-of-the-way corners that might be turned to advantage if planted with these. Where it is impossible to make borders for fruit trees owing to the space for root room being so limited, a few Blackberries could be grown, and at this season of the year they would be found most useful. The large American varieties have very pretty cut leaves, and as these remain green till so late in the season, they are very useful for decorative purposes. The young growths, in whatever position they are grown, should be trained either to stakes or to the wall, for when allowed to hang about they get broken by the wind. Those grown in an open position usually fruit the most freely, the wood getting better ripened; for this reason, when the fruit is gathered the old canes should be cut away to make more room for the young ones.

FIGS.—It cannot be too deeply impressed on the minds of those who have a number of these trees under their control growing in the open that it is advisable to remove the young figlets from the lower portion of the young shoots, as it is especially desired that these ripen and when allowed to remain hinder smaller ones that would have formed in the place from which they were removed. We too often see the greater portion of the shoots on outdoor Figs bare, only one or two fruit at their tips coming to perfection; whereas had the first that made their appearance been removed in time, others would have taken their place and would have survived the winter, unless of extraordinary severity, and thus a full crop would have been secured. In many places in the south Figs do well, and but little care is exercised in their cultivation. Large bushes are to be seen growing in the open, which in favourable seasons give a fair amount of fruit, but had these

received anything like proper care, the crops might be fourfold. Figs in the open are not one of the easiest fruits to grow to perfection, but when well done few pay better; therefore every care should be taken to find out which is the most suitable time for removing the figlets that form first. It is seldom that a second lot is produced at the places from which the others were taken if they are not removed before the first week in September, and more frequently August 25 is quite late enough. In houses, under more favourable conditions, this crop would ripen, but out of doors the fruit, not being forward enough to come to maturity, would be destroyed by the frost; therefore proper effort should be made to get rid of them to take their place, which, notwithstanding, would be able to withstand the cold and would commence to swell again with the warm weather in spring. Many birds are partial to ripe Figs; this being so, the fruit must be protected with small-meshed nets, otherwise the crop will soon be cleared off. Where the fruit has to be sent to a distance it ought to be gathered before being fully ripe, otherwise it will not travel. Shallow boxes that only take one layer are preferable for this purpose, and where they have to go a considerable distance should be made sufficiently stout to resist the knocking about they get on the railway. Where a quantity has to be sent at one time it would be best to divide the boxes into four, each compartment taking a dozen. In this way when they get placed on the ends, but little harm would result; whereas if there were no partitions the weight of the top fruit would crush those beneath.

H. C. PRINSEP.

KITCHEN GARDEN.

CABBAGE GROUND.—The preparation of the ground intended to receive the main crop Cabbage should be taken in hand as soon as it is cleared of a previous crop, and the nature of this crop, together with the method in which the ground was prepared for it, must be taken into consideration when getting ready for the Cabbage. Most crops are earlier this year, and the ground a more varied choice of a cleared ground than is usual. A favourite site for the Cabbage bed is the ground already cleared of spring-sown Onions, and on this there should be no occasion for further manuring, as the heavy dressing given to the Onions should leave the ground in good heart and able to carry a heavy crop of Cabbages; nevertheless, the latter being such gross feeders, it will be well to make sure of the matter by giving a further supply of well-rotted stock-yard manure if there is any doubt at all about the capabilities of the land. Either in combination with manure or alone, I would advise that in all gardens where Cabbages give any trouble the ground shall have a fairly heavy dressing of gas-line just now, either dug in with other manure, or where the latter is not to be added, forked in near the surface. Gas-line has a wonderful effect for good on all the Cabbage tribe, as it promotes good growth and grand colour on the produce and prevents attacks from club and various insect pests. There need be but little fear of overdoing the land with this cheap and valuable fertiliser, as it has no injurious effects on Cabbages; while, on the contrary, digging bring the portions with gas-tar while in the purifiers, but such portions may easily be discovered either by the colour or by smell, and should be cast aside.

THE ONION GROUND.—except on the heaviest soils, will hardly need digging for Cabbages except as a means of adding manure; in other cases a merely superficial stirring of the surface will be sufficient, as a firm root-run is best for the crop and should be obtained when digging is done by breaking down all clods into a tolerably fine condition and treading the plot thoroughly after digging and again before planting. Although Cabbages revel in a rich soil, it is well in low-lying gardens to be cautious about planting them on such, as experience here has taught me that plants on such soil

in a low position are the first to succumb to a severe winter, and for this reason I avoid the Onion plot for the main crop and plant on ground in a higher position, which has been cleared of Potatoes, simply dressing this with gal-lime and fork it over level before treading. A few seeds planted to succeed the Onions, but these are frequently cut and used before Christmas, as it is only in such winters as the last that they come seed-time enough without loss. A final sowing of main crop varieties may now be made, and sufficient ground should be prepared to carry a good breadth from this sowing, as none of the plants will be likely to bolt, and they will prove valuable for succeeding the earlier sown plants, and in a private garden a good succession is of more value than a large breadth of purely early plants, some of which would be sure to spoil before they could be used.

TURNCIPS.—There is yet time for the formation of good usable Turnips if only a few lot of seed is sown at this time. Rain has at last come in fair quantity in this neighbourhood, and with the ground thoroughly warm as it is, growth should be quick. In any case these late-sown plants are sure to prove thoroughly hardy and may be left in the ground, so that those not needed for use in the orthodox way may remain to form greens in spring, these being at times very acceptable. In addition to the White Stone and Chirk Castle varieties Early Milan may be added to the list for present sowing, and this will come in earlier than the others for pulling. Earlier sowings will need and must have every attention in the matter of early hoeing and thinning, for Turnips are quickly spoiled and lose all bulbing power if left thickly in the row long after they have reached the rough-leaved stage; they ought, too, to have frequent dustings of wood-ashes, this gives them a dirty appearance at the time, but saves them from bird and insect attacks, besides promoting good growth, and it should be used with an unsparring hand if intended to thoroughly effect its purpose. Choose for setting an open position where the plants will not need all the light they can get. Do not over-thin—that is to say, there is no need to give more than 8 inches between the plants of small varieties, anything more than this with late sowings is wasted room, as the leavage will not be great.

PEAS.—Where the advice given in previous calendar notes as to sowing and thinning Peas has been put into practice there should have been but little difficulty in keeping up the supply, except in those gardens where the demand exceeds its due limit. For a week or two we had, owing to a bad attack of thrips in the blossom, a slight falling off, but this was soon mastered, and the present supply is good and likely to remain so, as rows of Goldfinches, Plus Ultra, Duchesse of Edinburgh, and especially Chelonsian, are carrying a heavy crop and still blossoming. The last mentioned has reached a height of 8 feet and is still growing. In dealing with late crops, light showers must not be taken into account, and watering should be continued, as it is only by this means, combined with mulching, that that dreaded pest to Peas, mildew, can be kept at bay. Where this pest has already attacked the plants they should be treated to bi-weekly spraying with a solution of sulphide of potassium or some other mildew destroyer. Those who have still good rows of Peas coming on should be especially careful in staking the same, to give plenty of support to resist the strong winds which may be expected before the Pea season is over, and which frequently do the crop much damage. The rows, too, which are already staked might have a few additional sticks placed here and there along the row, with the same object. The gardeners appear to be too fastidious to get off to the confounding of what they can get green Peas, which are more to their liking than is the dry weather. The ordinary gin, baited with an open pod full of Peas, is the best method of dealing with the pest, and in the case of tall varieties the traps should be set high up amongst the sticks.

CUCUMBERS.—If Cucumbers are expected during the winter, the present is a good time for sowing

the seed, which should be done singly in small pots, and the young plants must have good attention from the first. General quarters, a full share of light and shade, from insect pests are important points to bear in mind when dealing with winter Cucumbers, as plants weakened from neglect of either of these will be worth nothing for fruiting during the dullest month of the year. The soil for the seed-pots should be light and moist enough at the time of sowing to do without further watering until germination takes place, and it will be well to place the seed-pots under bell-glasses until the seedlings appear. Enough seed should be sown to admit of selecting only the strongest plants, a night temperature of 65° should be given, and the young plants must be potted on or planted out (whatever system is chosen) before they become root-bound, as checks to growth from any cause are fatal to success. As the pit or house in which the plants are intended to fruit will not get much ventilation later on, it is necessary to see that it is thoroughly clean and sweet, the walls and all available surfaces should be whitewashed. Though the hotbed system is not recommended for winter Cucumbers, a few inches of sweet Oak or Beech leaves and manure mixed and placed under the mound of soil or the pot will counteract somewhat the dead heat proceeding from the hot-watertight cold weather. The soil for potting or planting must be light and fibrous, and should contain no other manure than about one-sixth of decayed horse manure, and, added to the whole, should be enough broken plaster or lime rubble to keep the soil sweet. Sion House and Telegraph are my favourite winter Cucumbers, the former, though small, is very freely produced.

FRAZEE CUCUMBERS.—A few weeks ago I advised those who have not the advantages of a winter Cucumber house, but wish to make the manure-heated frame or pit supply last out as long as possible, to sow for this supply. The plants can now be ready for planting, and the pitch, which should be a narrow one, ready to receive them. Lata fruits from these plants will be good in quality if few in number, and will beat in that respect any grown on plants which have been fruiting for some months. Any plants which have become infested with red spider may be treated to an old fashioned, but effective remedy, which may safely be put in practice now, though a little risky during the hot weather we have had. I allude to the little practised plan of giving the plants a heavy syringing in the morning and keeping the frame or pit closely shut and unshaded all day. The effect of this on a bright day will be to kill the majority of the insects without injuring the plants. J. C. TALLACK.

FLOWER GARDEN.

HARDY BORDER FLOWERS AT KEW.

THESE is at the present time in the long and spacious border adjoining No. 7 greenhouse in the Royal Gardens at Kew what is undoubtedly a welcome array of the best hardy flowers in season. Not that this particular spot has in all the year that is past been noteworthy for its bareness; far from it. On the contrary, it has been showy for weeks past, displaying many of our finest hardy flowers, not in ones or twos, but in bold and telling groups that must, if such things can do anything at all, create a desire in the minds of those who behold them to endeavour to do likewise. The border in question is essentially a mixed one, and contains, as all such borders undoubtedly should, a varied assortment of plants to furnish a display of flowers during the greater part of the year. And if at the time of planting this was one of the chief objects in view, it must be a source of gratification to the designers that so important an aim has been successful. The writer has

upon several occasions at intervals during the present season visited this border, and while it has always been interesting in the variety of flowering subjects it contained at the moment, it has upon others been even gay and again decidedly attractive. And now, having furnished such a succession of flowers as may during the past three months have been seen by numbers interested in hardy flowers, the same border is to-day (August 8) even more gay and more attractive than ever. In this same border quite early in the year were to be seen masses of fragrant Pinks in the greatest profusion, Iberises, Oriental Poppies in gaudy splendour, the stately towering Larkspurs in bold masses, Pyrethrums, early (suffructiose) Phloxes, Irises, and many others equally suitable, and a later display included climbing Roses, Sweet Peas, together with the perennial kinds, Day Lilies in bold, effective display, Lemonea's Gladoli, and the like; while at the present time there is a fine show of Gaillardias in many showy forms, all brilliant and affording abundant material in those instances where cut flowers are required; Echinocca cordata, the three forms of Japanese Anemones—red, white, and pink, all in spreading masses that will carry a profusion of blossoms for a long time. As here seen the red variety is the earliest to bloom, and has quantities of flowers already some days expanded, and very showy and distinct it is. The white variety, unequalled for its glistening purity, had not so many open blossoms, but buds in great numbers, and the groups of exceptional vigour. Phloxes now also make a fine display, several kinds being especially fine. Of these, Pantheon is a rose-salmon with very large flowers; Siécle, brilliant salmon-scarlet, very effective; while Diadème and Sulphide are the finest of pure white kinds. There are also Veronicas, Pentstemons, Statice, Carnations in various colours in bold masses, Gaura Lindheimeri, perennial Sunflowers in variety, Rudbeckia Newmanni and a host of other things in variety; and then, apart from the more perfectly hardy subjects, and occupying positions where bulbous-rooted things flowered in spring, are effective groups of Godetias, Phlox Drummondii in many brilliant and effective shades, Linum grandiflorum coccineum, Convolvulus minor, Chrysanthemum carinatum, Senecio elegans, Antirrhinum (very attractive, particularly those of deep crimson hue), masses of Amaranthus, Marigolds, among which appear the dwarf kind recently figured in a coloured plate in THE GARDEN. These are all in broad effective masses, that show the value of such things, and are so disposed amid the freedom and luxuriance of the predominating perennials, that they rather assist the display in the foreground than in spring was occupied with dwarf subjects. And there is yet enough of material in this particular border to make it gay for some time to come. In this latter display the Michaelmas Daisies will be conspicuous, for they are even now producing masses of buds that will presently be expanded blossoms, and with these the latest flowers of the Kniphofias and perennial Sunflowers will also appear. And it is just such a border as this that in any large garden would prove an inestimable boon, and such a border—containing so many of the useful and beautiful flowers of the year—may not be lightly esteemed; rather should it be freely imitated, as much for the interest it awakens as for its own intrinsic worth. E. J.

Lilium Henryi.—This well merits the notices that have from time to time appeared in THE GARDEN, as it is in most respects a very desirable Lily. One notable feature is the vigour of its

constitution, for planted out in an open border the smallest offsets will rapidly gain strength and improve year by year. Its value as a first-rate outdoor Lily has been well shown at Kew for a few years, and the present is no exception to the rule. This Lily has been in some catalogues spoken of as the yellow *speciosum*, which it certainly is not, as the general appearance of the plant suggests as great an affinity to *L. tigrinum* as it does to *L. speciosum*, though it is perfectly distinct from any of them. The bulbs of *L. Henryi* do not bear any resemblance to those of either of the species just mentioned, but singularly enough, they are more in the way of some other eastern species. Thus, though the following kinds are distinct enough in foliage, flower and style of growth, their bulbs in some cases approach each other so closely, that it is impossible to separate them. The species of *L. Henryi*, *L. nepalense*, *L. night-flowering* and *L. tigrinum* are first known as *L. Wallichianum superbum*. I do not mean to say that all the bulbs might be so confounded, but there is a certain amount of variability about them, and some individuals of one species mimic those of another. It is only a few of the mahogany-coloured bulbs of *L. nepalense* that would be mistaken for any other, while the dark hue of most of those of *L. sulphureum* serve to form a distinguishing feature. *L. nepalense*, on the other hand, is more uniform in appearance than the preceding, and it is difficult to select them with certainty from *L. Henryi*. There is one feature, however, in which all these Lilies show a strong affinity towards each other, and that is in the fact that very few roots of a fibrous nature are produced, for those pushed out from the base of the bulb are stout and deep descending, while they are not borne from the bottom of the flower-stem to anything like the same extent as they are in some Lilies. Another species to which these remarks will apply is the Caucasian *L. Szovitsianum*, a beautiful Lily, and one the early flowering ones.—H. P.

Japanese Lilium longiflorum.—We now receive bulbs of *Lilium longiflorum* or varieties thereof from various parts of the world—viz., the typical species, now not much grown, from Holland, that known as *L. Harrisii* from Bermuda, a very striking form from Japan, while a few seasons ago South Africa sent us some grand bulbs which proved in every way satisfactory. As the bulbs of *Harrisii* from Bermuda reach here, as a rule, in the early part of August, they are soon cut up and sent to the dealers for early forcing, and are consequently much sought after for that purpose; but when required for planting out of doors, or for bringing on in pots to flower at the normal season, or nearly so, the Japanese bulbs have within the last few years greatly increased in popularity, and are by many preferred for later blooming—that is to say, from May onward. The demand for them last winter was so great that the supply at the London auction rooms was soon exhausted. It is considered by many that, as a rule, these bulbs from Japan produce more flowers on a stem than the Bermuda ones, and this, I think, more particularly applies to the smaller bulbs. The magnificent group which Messrs. Wallace, of Colchester, have several times exhibited at the Temple show (and more recently at the Drill Hall) under the name of *L. longiflorum giganteum* shows these Japanese-grown bulbs in a most favourable light. Planted out of doors, they have been during the latter half of July one of the most attractive objects in the garden. Earwigs are very fond of congregating at the end of the long tube-like flower, from whence they can be shaken out and destroyed.—H. P.

Lilium Batemannae.—The note on this Lily (page 111) is well merited, for it is just now one of the most conspicuous Lilies in dower in the open ground. In general particulars it is very like *L. longiflorum*, the only difference the flowers being much in the way of those of that variety of *L. elegans* known as *venustum*. Considerable numbers of this Lily are generally sent here from Japan during the winter, at which

time it can, as a rule, be purchased at a moderate rate. The bulbs are scarcely to be distinguished from those of the much rarer and extremely graceful *L. Leichtlinii*; hence *L. Batemannae* is sometimes sold at auction sales under the name of the other species. *L. Batemannae* is essentially a Lily for the open border, as it does not lend itself to pot culture, for though the flowers usually develop fairly well, the foliage gets very shabby before the time of blooming, which detracts greatly from its beauty. The other Lily above referred to—*L. Leichtlinii*—is such a charming species, that one wonders it is not more often grown. It is a slender grower with narrow grass-like foliage, and beautifully reflexed blossoms of a warm straw colour, dotted with crimson. This will grow and flower in a perfectly satisfactory manner in pots, and for this it is delicate in constitution, and may be well drained and not overwatered. It seldom holds its own in the open ground for any great length of time, which is doubtless the reason of it always commanding a good price.—H. P.

THE COMING DAHLIA EXHIBITIONS.

So generally are the flowers this season that there have already put in an appearance, and seen in competition at the early shows of the present month. At Cardiff, Taunton, Trowbridge, Reading, Brighton, Bath and other exhibitions which will be held during the next week or so, Dahlias form an important feature in the cut flower classes, and are seen in fine character. The usual Dahlia show, in connection with the National Chrysanthemum Society's exhibition, will take place at the Royal Aquarium on September 1, 2 and 3, followed by that of the National Dahlia Society at the Crystal Palace on the 4th and 5th; and on the latter date a newly-formed Dahlia society at Wellingborough, Northamptonshire, will hold its first annual show—a fact which testifies to the revived popularity of the Dahlia as an exhibition flower. Young or inexperienced exhibitors are liable to commit two mistakes in setting up a stand of Dahlias for exhibition—they stage flowers which are frequently too old, and they then soon show signs of open centres (which is a grave defect), or they soon commence to lose their back petals. A flower should not only have a full, high centre, but be symmetrical in all its parts, fresh, clean, and old enough properly developed, but young enough to stand the strain of a day's hard display without becoming paralytically fresh. Flowers with petals eaten by earwigs are sometimes staged, apparently in the hope that they will pass muster with the judges, or they are defective from other causes. Another common fault is that of placing on a stand flowers uneven in size—some large, almost or quite past their beat, and some which are barely more than half developed. This inequality in size is a grave defect in a stand, and lowers it in the estimation of the judges. An exhibitor may sometimes be driven to set up flowers which are too young, by reason of scarcity of blooms with which to make up the requisite number, but it would be better to be content with a smaller class, or not attempt to exhibit at all.

In stands of Dahlias staged for competition the flowers are arranged in three rows. The blooms in each row properly should be matched as nearly as possible in sizes, and though some difference in the dimensions of the blooms in either row (in relation to other rows) is not only admissible, but even to a certain extent necessary, yet the general appearance of the whole is much more effective when the disproportion is of a small order, and the gradation is just sufficient and no more. Let it be remembered that the size of a flower may be readily increased or diminished by judicious cultivation, and so be made, in a great measure, to accommodate itself to the requirements of the grower. To this end it is a good plan to select a variety neither too large nor too small, as the representative of what is most appropriate for the middle row, and then endeavour to grow the

larger varieties down, and the smaller up to the required standard. It is well known that when flowers naturally disposed to coarseness are subdued in growth, they gain in form in direct proportion as they lose in size; and, on the other hand, small and compact varieties will be improved by an excess of growth, as these varieties rarely become coarse, even when subjected to high cultivation and treated to stimulants. Coarse flowers are reduced in size, and have their symmetry more assured by allowing the plants to develop all the buds they form. Small flowers have their sizes increased by judicious, and sometimes by severe disbudding.

R. D.

White Delphinium.—I lately saw this plant in fine condition in Messrs. Kelway's nursery at Langport. This variety is as vigorous in growth as many of those which bear different coloured flowers, and for contrast with them it is a valuable addition, for of this noble class of plants we cannot have too many, especially if subsequent summers are to be as hot and dry as the one we are passing through—the Delphinium being a deep-rooted plant. Those established in the ground have not suffered from the drought nearly so much as more shallow-rooting subjects.—H. C.

Cactus Dahlia Major Haskins.—Those on the look-out for something good in the way of Dahlias of this increasingly popular type should make a note of the above. Its colour is rich crimson and the form perfect. I thought an improvement on the variety *Gloriosa* to be an impossibility. The fault of the latter with some is that the flowers come too big. If this be a fault, the newer Major Haskins should be called an improvement, and the colour, too, is richer than we find in the older one.—S.

Cactus Dahlias and their flowers.—The great fault of some of these varieties—notably that charming yellow, *Lady Penzance*, and the light pink *Delicata*—that they refuse to throw their blooms well out from the foliage, and are thus not nearly so valuable for decoration as they would be if the stems were longer. I have, however, found an easy way out of the difficulty by disbudding. It will be noticed that the blooms of Cactus Dahlias usually come in twos and threes. Now instead of keeping the centre buds, pinch them out and allow either one, or for that matter the other two, to develop and a striking difference in the length of stem will follow.

Gladiolus Dr. H. P. Walcot.—This is a superb variety, a large number of the brilliant flowers opening upon the spike at once. A cut spike now before me has twelve spikes and each blossom is over 6 inches across. The three outer segments are vermillion, bordered with white, the inner ones overlapping the upper similar to the sepals; the two lower each have a large white blotch in the centre, the throat being spotted with a deep crimson-line on a silvery white ground.—R.

Gladiolus Crimson Maitre.—Though not so large or full as the preceding, this is a very refined and beautiful flower and one of the most marked varieties I have in a somewhat extensive collection. The two lower petals are richly marked as a *Tigridia*, the centre being a lovely velvety crimson, running into white towards the front, the tips a distinct rose magenta, a charming shade that is repeated on the upper petal. The outer segments are purplish crimson, shaded with a brighter tint and white.—R.

Paeonia alpinum.—A most unexpected form of *Paeonia alpinum* has just appeared in my rock garden. The flowers, which are white, are rather smaller than is usually the case with *P. alpinum*. Some of them have two corollas, the inner one fitting close to the outer one, but separated from it from the base upwards, and each of the corollas, instead of being divided into four petals, is irregularly cut into a large number of small sections (multifid), many of the divisions reaching half way or more to the base, thus forming what at first sight looks like a large number of small petals of irregular width, but most of which are

narrow and long, giving the flower the appearance, as seen from a little distance, of a large and somewhat cup-shaped Daisy. In one flower I counted fifty-three divisions. Some of the flowers have only one corolla, which on examination is found to consist of four petals, but it is so deeply and numerously cleft, as above described, as to make the four petals unnoticeable at first glance. The plant is self-sown from last year. Immediately above it are several clumps of alpine Poppy, and somewhat near it are plenty of Iceland Poppies, but these are all normal in form, so the mere fact of a cross between some of these would not explain the mystery. I had last year in a border near this some clumps of large annual Shirley Poppies, some of which were deeply fringed, but it is difficult to believe that the diminutive alpine Poppy would cross with one of these. Perhaps one of your readers may have had a similar experience or can offer a suggestion as to the cause of it.—ROBERT W. WILLIAMSON, *The Croft, Didsbury.*

Crocosmia imperialis.—The charming orange-scarlet flowers of this fine hardy bulbous plant are just now very attractive, the spikes attaining a height of over 3 feet and much branched. It may be planted in autumn with perfect safety, all that is required being to place a little fine dry soil of a sandy texture about the bulbs if the soil is inclined to be heavy. The flowers are among the best at this season for arranging in tall vases or branching epergnes.

LILUM AURATUM.

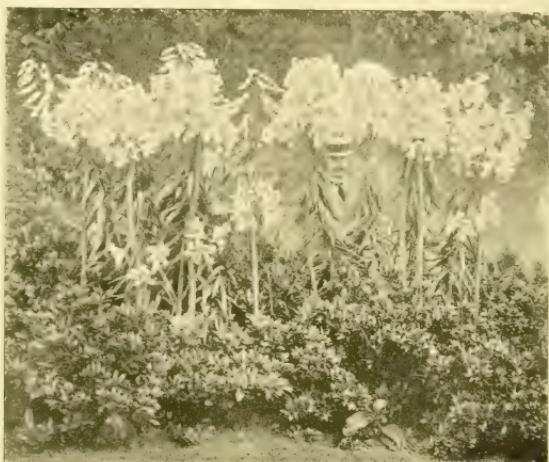
THE bulbs of *Lilium auratum* shown in the photograph were purchased six years ago. They have been practically undisturbed since they were first planted and have flowered well in every year until 1895. They never exceeded 6 feet in height, whereas some of them that year were over 8 feet. They are planted in peat and leaf mould about 18 inches on a subsoil of gravel, with a south aspect and sheltered by rising ground from the N. and E., with full exposure to sun. They were well watered during the dry weather last summer, and this year are as good as last summer. Some bulbs planted in loam at the same time have not increased in the same way, only throwing up two or three stems as against twelve to fifteen by those planted in peat.—H. G. DEVAS, *Hartfield, Hayes, Kent.*

—The golden-rayed Lily is a remarkably variable species, for when grown in quantity it is often extremely difficult to pick out two that are alike, or nearly so, for they differ from each other in many particulars. The marking of the flower, its conformation, and the angle it forms in relation to the stem are all noticeable points, and so is the height of the plant as well as the leafage. In this latter feature there is considerable, some specimens having leaves double the width of that of others, and many of the narrowest are three times as numerous as the broad ones. Varying as they do, it may be readily understood that from a horticultural point of view some are greatly superior to others, the most effective form usually being one of moderate height, with leaves of medium width, whose flowers are pushed out at nearly right angles to the stem, while the blossoms themselves are round and full, with broad segments and well spotted petals. In direct contrast to this is a loose irregular flower, generally poor in colour, with weak stalks, altogether a greatly inferior form, which, unfortunately, in some importations is pretty numerous. While such as are above indicated crop up to a greater or less extent among the bulbs sent from Japan, there are other well-marked and recognized varieties which are kept distinct, and at the auction sales held during the winter they command higher prices. Prominent among them is *rubro-vittatum*, a fine large flower, in which the golden band down the centre of each petal characteristic of the typical kind is replaced by a rich crimson one, which renders it

a remarkably effective Lily. One drawback that after expansion the crimson soon becomes rather dull, but even then the plant stands out boldly from its associates. Besides the varietal name of *rubro-vittatum*, which is sometimes known by that of *cruentum*. In direct contrast to this is the variety *virginale* or *Wittie*, a pure white flower except a golden band down each petal. The total absence of spots is a notable feature of this variety. The bulbs of the two last-mentioned forms are, as sent from Japan, always a good deal smaller than those of the average *L. auratum*, but they flower well, and when obtained from the auction sales can, as far as my experience goes, be relied upon to be true to name. In the bulbs of *L. auratum rubro-vittatum* the scales are broad and with a rather reddish tendency, while in *virginale* they are more numerous, being narrower and of a paler tint. These two varieties are rather delicate in constitution, and are more often employed for greenhouse decoration when grown in pots than they are for planting in the open ground. While the above are characterised

is all grass for laying, but I can find no such fault with the ones in question, as it gives sufficient layers to allow of a ready increase of stock. I hope that those new varieties in the same colour of which Mr. Burrell writes will prove to have an equally good constitution with *L. auratum Duran*; and, notwithstanding its French origin, there need be no fear of the hardness of the latter, which I have now grown for many years in a garden noted for its cold winters and its fogs. I plant in September or October and give no shelter.—J. C. TALLACK.

Clematis Jackmani.—This fine hardy climber may be used in many ways in the garden. I find it gets a lot of admirers grown in a single bed by itself. It is growing in a round bed 12 feet across; some ten or twelve plants are growing in it. In the spring before growth begins I place some spray sticks in it, raising them to 3 feet or 4 feet high in the centre, allowing them to come close to the ground at the edge. In this way it makes a lovely mass of blue on the green turf. The effect is improved this year by planting amongst



Lilium auratum in the garden at Hartfield, Hayes, Kent.

by weaker growth than the ordinary *L. auratum*, there is a variety which is far more vigorous than the type. This is *platyphyllum*, with very broad leaves and large saucer-shaped blossoms, which are, as a rule, not much spotted. Some enormous bulbs of this may sometimes be picked up during the winter. The bulbs of this differ from most of the ordinary *auratum* in having larger, broader, and lighter coloured scales. When in good condition this is a grand Lily, but, like all the forms of *L. auratum*, it is liable to die off when in full growth without any apparent cause.—H. P.

Carnation Carolus Duran.—This fine Carnation is not, as Mr. Burrell points out, quite so large as Mrs. Reynolds-Hole—that is to say, its diameter is not so great, but it is a fuller and weightier bloom. One of its finest characteristics, viz., its perpetual character has not been noted, and it may interest growers of border Carnations to know that the plants here are still (August 10) in good bloom, while many spikes have not yet opened a bud. This freedom of flowering is with many Carnations a defect, as it robes the plants of

hardy Azaleas in a bed adjoining a good mass of the common red Gladiolus, the red showing off the blue.—J. CROOK.

Datura cornucopaea.—I saw the other day at Euston Hall some good specimens of this new *Datura* growing in the greenhouse and carrying some very fine flowers the scent from which was delicious, and which should establish the plant in the favour of those who have a special regard for scented plants. The massive blooms are handsome in form, though the mottled white and purple colouring will hardly please those who care most for decided self colours in flowers. The plants appear to like plenty of pot room and a strong loamy soil.—J. C. TALLACK.

White Everlasting Pea.—It would be impossible to over praise this hardy climbing Pea, there are so many places it may be placed in to advantage in large grounds. I have it growing and hanging over some big stones in a rockery, also climbing up amongst some evergreen shrubs, and covering a wall by placing a few sticks for it to climb up. In each position it gives a good effect. When at Rausdin recently I noticed a big

mass of it, supported by common Pea sticks, growing in the kitchen garden. I never have seen it growing so strongly before.—J. CROOK.

FLOWER GARDEN NOTES.

SUGGESTIONS FOR LARGE EEDS—On large lawns or in various nooks and corners in large pleasure grounds one often has to deal with large beds, and they make a brave show if well done. If small conifers are not objected to, a few occasionally in beds will be acceptable. A bed that I saw the other day had seven *Retinosporas* 4 feet high and nearly as much through at the base; clumps of *Galtonia radicans* occupied the central spaces between the conifers, and it was finished with crimson *Antirrhinum*. A hint for a bed of similar size planted in the same way, but with somewhat different materials, would be *Lobelia fulgens* Queen Victoria in lieu of the *Galtonia*, and *Gypsophila* in place of the *Antirrhinum*. With reference to the conifers it is quite possible to keep them well within bounds and yet avoid monotony formally by judicious pruning, removing leading shoots carefully where this is necessary, so that some cuts are visible—in fact, so to leave the trees when the operation is finished that it would be difficult to say a knife had been at work. The fact that the majority of deciduous shrubs are spring-flowering naturally prevents one from utilising them for the sites under consideration; their foliage, too, is not calculated to form that pleasing contrast when associated with hardy flowering plants that is a characteristic of *Retinosporas*, *Thujopsis*, and other conifers. An exception must be made in the case of bright-colored shrubs, such, for instance, as the variegated Maples and *Prunus Pissardi*, that act respectively as admirable contrasts to the hardy Fuchsias or the Sweet Tobacco (*Nicotiana affinis*) or scarlet and white Phloxes. Some of the taller annuals of enduring nature may also be used with advantage in such beds, and if dwarf plants have been previously employed for the purpose, their successors will be all the more welcome. Let me recommend a trial of the new miniature Sunflower, var. *Stella*. The type is now generally known, but this variety, both in vigour, in size of foliage and flowers (nearly twice that of the older sort), may be accepted as a most decided improvement.

Plants from sown the latter end of March are already 5 feet high (July 27) when flowering freely, and this on an ordinary border having but very little preparation. On a bed that had received a thorough going (to coin a familiar word) the plants by the middle of July would be full of vigour and covered with their large starry flowers. Let me add a good word for *Nicotiana colosses*. A demand for one or two good foliage beds on a large scale is often made, and as house accommodation is not always sufficient for so-called sub-tropical plants, there was at one time a difficulty in supplying the demand. The problem, however, is solved by the acquisition of the giant Tobacco. If sown early, say some time in the beginning of March, potted off singly, grown on briskly for a time, gradually hardened off, and then planted in good soil, it will grow away at an amazing pace and soon furnish the bed. No plant with such enormous foliage can be grown so easily.

FAILURES—It has often been suggested in connection with every department of the garden that the unhesitating record of failures would be more instructive than that of success, and, accepting the undoubted truism, let me note a few.

SPRINKLES—More, perhaps, on our light dry soil, because of the determination to try and associate them with other things on the herbaceous border rather than assigning them to special quarters in the first position naturally given to dry earth, than they are a decided failure, and it is a species, taking the herbaceous or shrubby section as a whole, that will not, like other moisture-loving plants, accommodate itself to situations it does not fancy, no matter how liberal the treatment. The exception is the beautiful foliaged variety *filipendula* f. pl.; this is apparently at home in

almost any soil and situation. I shall lift all other varieties and plant them on a north border, an experiment that has already proved a success in the case of *astilboides*. Such a border will be found extremely useful for many things. A selection of good Phloxes, for instance, will on this site be considerably later in flowering, and the flowers keeping out well, the supply will be proportionately prolonged.

DRACOCYPRIS HALLUM GRANDIFLORUM.—Perhaps some reader who has grown this successfully will kindly say what it likes in the matter of soil. I was advised to plant it on a warm sunny border, but am inclined to think, given such a situation, it should be in a good, rather retentive soil. It does not at any rate flourish in our sandy loam with a succession of hot, dry summers.

LILUM CANDIDUM.—Again, in the matter of this Lily I have to record almost a total loss of foliage, but the ability to save the flower-spikes, although with flowers that in size were considerably below the average. Like Mr. Smith in THE GARDEN (p. 107), I cannot understand how any drying of the bulbs can possibly act as a preventive to the particular disease in question. The bulb has no more to do with it as a first cause than have the young tubers of Potatoes with the haulm in the case of Potato disease, and, indeed, the stem of the Lily is not touched in any way; it stands firm and sound long after the foliage has dropped. The mixture of blue vitriol and crystal soda would probably be a great preventive, only it would have to be applied early, even before the disease had made its appearance in the mildest form.

PRINCESS ALICE STOCK.—The failure here is not a matter of cultivation, but something wrong with the seed. I have grown this variety for many years, and have always obtained a big percentage of doubles, probably quite 90 per cent. This year, however, the case is quite altered, and more than three out of every four have shown single flowers. This can generally be detected at once, which is fine, as the pure white flowers, and as the single form is comparatively worthless, the loss is considerable. Perhaps other correspondents will kindly say what their experience has been.

POLYANTHUS.—There seems a doubt with some as to whether divided old plants are likely to be a success for another year, but there is very little doubt about it. The answer is, "Most decidedly if the operation is carefully performed." The finest individual flowers are obtained from seedlings, but for a great wealth of bloom it is nothing like the stock. Being aware that circumstances would necessitate the removal of the plants from the quarters they have occupied for the last four years, I went carefully through them and marked the best when they were in flower. These have just been lifted, and as the permanent quarters are not yet available, they are laid in on a north border, and having received a good soaking, the young growth is well on the move. The ground for their reception will be thoroughly well done and the old crowns split up into two, three or four plants, as their size and formation may determine. Red spider had a grip of the plants quite early in the season, and with the inability to water, it increased so rapidly, that some time before the lifting took place the old foliage was simply a yellow mass.

THE JALAP PLANT.—I should like to say a word in connection with these flower garden notes on the illustration of the above plant that appeared in No. 1289. We get some beautifully executed specimens in THE GARDEN, and this struck me as first-class in every detail, flower and foliage being alike so clear and well defined and the drawing of the tendrils so emphatically natural. Such work is a great help to those anxious to thoroughly understand the habit of a plant, especially when that plant is both rare and interesting.

E. BURKELL.

Nicotiana affinis.—The most fragrant flower at eventide is this fragrant Tobacco, and large

plants about the shrubbery borders assist very materially in brightening their surroundings and producing a welcome fragrance that is felt far and near at this season. It is a beautiful plant that gives little or no trouble, and is very useful in the garden.

Begonia semperflorens rosea.—Four large circular groups of this pretty kind in the gardens at Kew are very charming, and prove it to be among the best of the dwarf bedding kinds. The plants are each about 6 inches or 8 inches high, and produce an endless supply of rosy blossoms. In close proximity is another called Crimson Gem; of this there are two beds, and here the bronzy-purple hue of the foliage is as effective as the flowers. Both kinds are very useful and are flowering near No. 4 greenhouse.

Polygonum affine.—The mass of this plant in the rock garden at Kew is fully 5 feet across, and this space is occupied by a dense throng of its columnar miniature spikes of flowers. These latter are of a pink hue, while the spreading tufts of leaves are bronze. The plant is one of the easiest to grow and well suited to dry spots, where it quickly spreads out into dense, compact tufts, and when covered with its numerous spikes is one of the prettiest of late summer flowers.

Zauschneria californica.—This has been one of the most brilliant of rock plants for the past week or two, and for its bright effect should have a large space devoted to it either in the rock garden or in the border. In some localities it is apt to travel about too freely, particularly in the lighter soils, but in the warm, but in the more heavy soils it sometimes gives trouble to establish it. The flowers are brilliant scarlet or vermillion in shade, very distinct, and most effective in a large mass. In height it is about 1 foot, sometimes rather more when in the deeper soil of the border. There is a variety of it called splendens, with flowers of a brighter hue, though it is difficult to conceive anything more brilliant than the type. It should be generally known that this is a good plant for a rather dry soil or position.

HEMEROCALLIS THUNBERGII.

I was somewhat surprised that the above excellent kind received no mention whatever in the recent note on the Day Lilies by "S. W. F." This may have been due to a momentary oversight. To my mind it is one of the most valuable of the self yellow kinds, more particularly perhaps because it provides flowers when the beautiful typical *H. flava* is past and gone. This last-named species is in all respects excellent either for the border or for pot in the greenhouse earlier in the year, and it may be due to its earlier flowering, perhaps, that *H. flava* is the predominant kind in many gardens. Those, however, who do not know or grow *H. Thunbergii* will find this as valuable in July in the open border as is *H. flava* in the month of June, a fact that gives it a value of its own. Indeed, both kinds are equally welcome, as then a succession of beautiful flowers is kept up for a much longer time. *H. Thunbergii* is less erect than *H. flava*, the flowers are rather larger and of a slightly paler tone of yellow. The plant is as hardy as any and very free-flowering, and those of your readers who do not know it should make a point of adding this, which is one of the most beautiful of the group. By no means least of its charms is the fragrance of its beautiful yellow blossoms. When compared with *H. flava* it is much the more vigorous plant, with dwarfer and more spreading tufts of leaves. A grand bunch of *H. Thunbergii* was exhibited at the Drill Hall by Mr. Pritchard recently at a date when the other kinds had ceased flowering. Another very distinct species not mentioned by "S. W. F." at page 17 is *H. disticha*, which is, perhaps, the most distinct of the taller kinds. This is by no means an every day plant, and frequently *H. Kwanso* has to do duty for it. There is a beautifully variegated form of *H. disticha*, a very charming, though

Clarendon.

scarce variety, and likewise a good double-flowering variety. *H. graminifolia* is also a distinct species, dwarfer in habit, with narrow leaves and flowers of a soft yellow colour. This usually attains little more than 1 foot in height. Apart from these, to which may be added those enumerated at page 17 of the present volume of *THE GARDEN*, some beautiful hybrid kinds have been seen at the Drill Hall this year. One of these,

is a fine display of it at the moment in the Royal Gardens, Kew. Grouped together in a large bed which a few weeks since was purity itself with endless blossoms of the Madonna Lily, there are something like three dozen spikes of its richly coloured flowers in all stages of development; so much so, in fact, that with the present cool weather there will be flowers for a fortnight to come. Some of the strongest spikes are towering

sound bulbs it would appear by no means difficult to establish. Those interested in this species, however, may get an excellent idea of its vigour by paying a visit to Kew within the coming week.

Aster diplostephioides.—This is perhaps the most strikingly distinct of the Asters. The plant is only rarely seen in cultivation, though its good qualities certainly merit general culture. In height it is about 2½ feet, and terminates with very large flowers of a distinct and deep saffron-yellow and deep orange patches across. Unlike many kinds the flower heads of this species are solitary, the florets numerous, closely set and rigid. The flowering stems appear from tufts of leaves set closely on the soil, and not unlike *Eryngium speciosum*. A group of this would be very effective. Native of the Himalayas.—E. J.

THE GIANT FORGET-ME-NOT.

(*MYOSOTIDIUM NOBILE*.)

The illustration we give to-day of this noble plant from the Chatham Islands represents a fine specimen grown by Mrs. E. Powys Rogers in her garden at Perranwell, Cornwall. It was raised from seed three years ago and commenced to flower on March 30 of the present year. It was first tried in a shady spot, but the plants failed, and the plant here figured has been grown in a south aspect under a high wall, sea sand being piled up round its roots. A coloured plate of it was given in *THE GARDEN* of December 18, 1886, from specimens sent by Mr. Loder from his garden at Floore, Weedon.



Myosotidium nobile in the garden at Perranwell, Cornwall. From a photograph sent by Mrs. Powys Rogers.

named Apricot, is a charming thing that should be in demand if a hardy and free-flowering as the best existing kinds. This kind has already been noticed in *THE GARDEN*, and is certainly one of the most chaste and refined of this interesting group of hardy perennials.

E. J.
away to 9 feet high and bearing nearly forty buds and open flowers. This noble species has been compared to a yellow *speciosum*, and in the manner of producing its flowers in twos on the lateral branchlets it is much like the varieties of *speciosum*. In the foliage, however, *L. Henryi* is quite distinct, and in the rich yellow of its flowers is quite unique. Happily, it promises to prove a sound and vigorous constitution, so that those who feel inclined to grow it in future may feel some satisfaction on this score, and starting with

THE IPOM-EA FAMILY.

This genus, of which *Exogonium purga*, figured in *THE GARDEN*, is a member, contains some of the most gorgeous of twiners, and seems to be represented in most parts of the world, particularly the tropical. I have grown many of them, and, although not successful in every case, I have been more gratified with such as have rewarded my efforts. Most of the finest species require plenty of room to grow them well, and by their freedom of flowering deserve it. *E. purga* seems best grown in the hottest situation in the open air, as against a south brick wall. I have it in a pot, but it does not blossom every year. A species I got from America called *L. mexicana* is a handsome free-flowering kind now in bloom: flowers large, pinkish lilac, foliage digitate, like that of *Horsfallia*. It is tuberous-rooted. This does not agree with one I raised from seed under that name, which gives long, tubular, whitish flowers, cordate leaves, and fibrous roots, the vine emitting root rudiments all over, which in moist climates would, I should think, attach themselves to everything in their way.

I. Learii is perhaps the best for amateurs; the whole plant is hairy, it is very free-flowering, flowers large, rich purple blue. I. Hardingei, a reputed hybrid with tuberous roots, has trifoliate leaves and flowers similar to the first. I. ficifolia has trifoliate leaves and tuberous roots, but I have failed to flower it. I. pandurifolia and I. paniculata raised from seed I have not succeeded with any satisfaction. I. pandurifolia I have now flowering in a pot; the blooms are white with a dark eye. After two or three unsuccessful attempts to

Lilium Henryi.—This handsome and beautiful Lily has already been noticed in *THE GARDEN* this year, but so good and distinct a subject will bear referring to again, more particularly as there

winter it in the open ground I have given it up. *L. albivorus* from Algea Bay, raised from seed, I unfortunately, lost before it flowered. Many of the annual tropical species are very beautiful such as *ruber cerulea*, *grandiflora*, *Bona-nox*. The new Japanese hybrids introduced this year are fine, but do not seem hardy enough for this country save in exceptionally warm spots. They are said to yield a great variety of colour, striped, blotched, and spotted, but those that have hitherto flowered here are all alike, pale pinkish lilac. *I. Childsi* is a charming annual, flowers rather large, pale lilac, with deep white margin and variegated foliage. Amongst a quantity of mixed seeds from Buchuanaland appeared a little gem of an annual *Ipomea*. It grew about a foot high; the blooms were scarcely half an inch across, white with red eye. Grown in a mass it formed a pretty pot plant.

J. M.
Charnouth, Dorset.

Erodium trichomanifolium is a very neat and pretty species now flowering on the Kew rockery with flowers of a rather deep rose colour. The species is not of every-day occurrence, but is quite distinct from all in the nearly self colour of its flowers. These dwarf members of their genus are not noted for producing any very great display at one time; though it is a surprise to note the great profusion of their blossoms which keeps up for three months, and during that time there is an almost daily supply of their dainty flowers. At the present time, besides the above, such as *E. macradenium* and *E. supracanum* also continue to flower freely.

THE GENUS CAMPANULA FROM A GARDENER'S POINT OF VIEW.*

THOUGH as a type of flower the Campanula is known all the world over, comparatively little is known of the exceedingly rich store there is in this genus, as represented by the multitude of types and varieties, their extensive range of colour tints, their numerous forms and constant succession of flowering when brought under cultivation.

It is not so much my intention to deal with the tender species, or even with the annuals and biennials, as to confine myself mainly, if not altogether, to the hardy perennials. When I speak of hardy I mean the capacity of the plant to withstand the rigours of even a severe winter like 1894-95 in any part of Great Britain, though one is aware that plants in captivity are largely influenced as regards hardiness by local conditions, such as rich, heavy, or light soils, wind-swept aspects, fairly-elevated positions, or the warmer and closer and damper air of our river valleys. These things have all much to do with the hardiness and health of our garden plants, influencing them so much that a man must go to school afresh at every change of locality where he may do his gardening, even with the care of plants he has known and grown all his life. To leave out of our present thoughts such beautiful biennials and annuals as *C. Medium*, *alpina*, *Wanneri*, *thyrsoides*, *sibirica*, *attica* and *Loreyi* may seem unfair in more than one sense; but besides the fact that one cannot in a short paper deal quite exhaustively with any one class, those I have named may also well be left out for the present, because I wish to speak of Campanulas placed under such conditions in a garden as to grow after the way of nature—spreading and mingling one with another year after year, and so becoming a united and beautiful whole.

The various species of hardy Campanulas are pre-eminently adapted for special positions in the wild or in the rock garden. As a sugges-

tion in passing, some are better for being used in big groups by woodland paths, others in the copse, and yet others never look more beautiful than when springing up from the moist ditch bank, or brightening the hedgerows with their tall spikes at midsummer. But I wonder if anyone has ever tried a garden of Bellflowers—Bellflowers to the exclusion of all other herbaceous plants, and with only a backing of trees or suitable evergreen shrubs to break up that plainness of surface which inevitably comes about for several months of the year in all herbaceous borders. I do not see why, with such an enormous number of species (and of varied forms) as belong to this genus, we should not try a Bellflower garden as well as a Lily garden, a Rose garden, ferneries or Peony breaks. It would have the merit of novelty and permanency, and its beauty and interest would be assured by the intrinsic value and adaptability of the individual species throughout. As a matter of fact, I have tried it on a small scale, both in my own and in other people's gardens, and it is remarkable how the blues and whites, and the many shades of purple, mingled with the evergreen shrubs just referred to, and, dying back into the deeper shade of a wood or plantation, attract and please by their somewhat sombre effect, as distinct from the more ordinary garden effects produced by the stronger glare and more numerous colours dotted here and there. The effects are at once rich and restful to the eye, for it is not all colours that mingle well with the purples, more especially with the red-purples.

Let us, for a moment at least, imagine a Campanula garden, and in so doing we may usefully find hints and suggestions of a practical kind. And, before we begin our word-picture, let us reflect on what a Campanula garden essentially implies—the ideal site. This should be where there is suitable environment, because of its special character. I mean this in the sense that if we are to gather together in one place a special collection of flowers of one family, it will be worth while to do so with surroundings which may be expected to be conducive not only to the best scenic effects, but also to the best accommodation of the plants culturally. If we grow Campanulas in mixed borders, or mix them with other alpines in our rock gardens, as a matter of course the borders and rock gardens are not, and need not, be specially selected so as to give the Campanulas all or even a maximum of the advantages; but it could, and should, be otherwise with a Campanula garden, and my point is that they merit and warrant this special style of culture where the opportunity presents itself. Doubtless many of the species (such as the alpines) are better for the rarified atmosphere of the higher altitudes, but, generally speaking, this section of Campanulas flourishes in almost any position where they are not absolutely or too partially shaded. It is well known that Campanulas flourish in the vicinity of dwarf shrubs and trees. If these do not obstruct the direct sky-light they conduce to a more balmy condition of the atmosphere by reason of the amount of moisture evaporated from the abundance of leaf surface. I believe these are generally accepted facts, and, given an ideal position for a supposed Campanula garden, let us feebly attempt to imagine the picture. Coming round a bend where a slope rises from a small stream (the slope facing to the east), and by another bend facing to the south; the slopes furnished with dwarf shrubs a little distance up, presenting sometimes rounded, at other times forked points, tapering in dwarfishness to within a few inches of the ground. A little

beyond, the groups of shrubs become larger as well as the stature of the individuals; higher, and beyond, again, are forest trees, common to our parks and woodlands. Turning round and glancing at the irregular strip or stony bank between the walk on which you stand and the stream, your eye is caught at once by large patches, rambling between the boulders, of the delicate *C. heteracea*. *C. isophylla* (both the white and blue forms) is far happier in these moist stony positions than you are wont to see it in drier places. Relieving the stones are the glorious spikes of the big bell-macrantha; and *cespitosus*, with its free habit and pleasing leaves, as well as its abundance of flowers, has possession of a broad piece of the bank, and has rapidly encircled many of the big boulders. There are Ferns, both large and small, but these *Campanulas* by the water-side run around them; forbidden by the darkness or the shadow of the spreading fronds, they have simply accommodated themselves by turning in other directions, and they seem grateful that they may ramble elsewhere. By the edges of the walk on both sides, and delightfully creeping into the gravel, are large masses of *C. pusilla* in various shades of colour, also, of course, including the white form. *Allioni*, a pigny plant with giant flowers and bells erect, occupies a similar place. The pretty *garganica*, with its racemes of starry flowers—procumbent—and with each flower suggesting a white star in a blue foil, forms itself into charmingly rounded tufts, the centre cushions of delicate green being surrounded with a ring of starry inflorescence. In no case do these humble Bellworts occur in line, but, on the contrary, break up the essentially line-character of the walk. Unless you watch your feet, you may tread on pretty tufts of mollis and muralis. *Pullia* you may easily overlook, as its herbage is so thin and scarcely conspicuous when not in flower; then, however, you cannot miss it, for its comparatively large black-purple bells almost invite you to kneel down and closely examine and admire them. Here and there near the walk are more of these humble beauties, such as *Waldsteiniana*, with its hair-like stems, almost leading you to suppose that its sheeny bells are without supports. In the slight gutter on the walk side, and evidently loving the gravel, is the rare grey-foliaged *Raineri*, with erect, cup-like flowers of a delicate heliotrope hue. In the warmer soil, by reason of its mixture with the gravel, is *Portenschlagiana*, which in fatter soil might not delight you with its perennial appearance. There you see a deep green and shining mass of overlapping and somewhat rosetted cushions of foliage, with dumpy and stout, but very short flower-stems. That is surely the typical nitid, and by its side, of a paler green, and evidently not so robust, is its white form. In passing let me say this is one of the most exquisite of the dwarf Bellworts, and all too rare. Se'dom are its flowers borne above 4 inches or 5 inches high; they are of ivory whiteness and stout substance, quite 2 inches across, and looking skywards. *Cenisia* and *excisa* are rare gems, flourishing only where the rooting medium and the conditions of moisture exactly suit them. *Zoyae* has a place in this open, sunny, and, withal, moist position, and suggests an inquiry whether it has not really got into wrong company in the Campanula garden, so unlike the Bellflowers are its contracted tubs with mitre-shaped limb—but, oh! how exquisite. Only 2 or 3 inches high at most, the flowers are in abundance, surmounting delicate tufts of spoon-shaped, tiny leaves, compared with which the flowers of three quarters of an inch long are

* Paper read by Mr. J. Wood before the Royal Horticultural Society.

large. The seemingly white lines which really form the edges of the corolla, and which appear to cross symmetrically over the mouth of the tube, constitute the feature to most excite our curiosity in connection with this gem.

We linger among the alpine species, and directly we find valdensis. This seems to come somewhat near to pusilla, but it is more refined. Its flowers are so shell-like that they rattle in your hand, or when you draw your hand over them. *Fragilis* is a delicate beauty, as implied by its name. *Abietina*, with a dense-growing, matted habit, has three rather distinct features—pale green herbage, glistening sky-blue flowers, and an abrupt, ascending flower-spike. A little further back from the edge of the walk are species and varieties of somewhat larger growth and higher stature. The lovely group of *carpatica* first attracts our notice. This comprises the three or four shades of turbinata, two or more shades of the distinct peltiformis, the two (reputed) varieties of G. F. Wilson, and the so to speak, “false” Raineri—not Raineri vera. More or less nearly related to turbinata are various other forms of *carpatica*, as alba and pallida, and where these plants have been allowed to seed themselves the natural hybrids of this type are delightfully confusing. There is also the aggregate group, 1 foot to 2 feet or more high, glomerata and dahurica being conspicuous. There have been planted here also according to the more ancient nomenclature, *Campanula grandiflora* and its varieties—known now-a-days as Platycodon. These are distinct to a degree, as the change of name made by botanists would seem to imply; but so lovely is this group of some four forms, including the dwarf and indispensable Platycodon Mariesii, that the planter has been justified in making a slight botanical deviation in the Campanula garden. There is the pleasing C. Hendersonii, a sort of pugnacious pyramidalis, an almost ceaseless bloomer, and one of the best Bellworts—a hybrid itself, it somehow seems to be variable. How grandly that pair of Hosti show up!—the pure white and the deep blue side by side in big patches. This species literally produces sheaves of flowers. With the knife, in sickle fashion, you may reap handfuls of spikes 15 inches or 18 inches high to fill a good-sized vase, and you may repeat the operation for many days consecutively. Now we get a glance of a more homely group—the commonest of our native species—the Harebell, or the Bluebell of Scotland. How grandly this does in cultivation! And our interest is the more stimulated in connection with this species from the fact that it has evolved many beautiful forms, more or less recognised now under botanical names, such as *linifolia* and *alba*, *soldanelleflora*, *major*, and a double-flowered kind. Rhomboidea and Rapunculus strike us by their profusion of flowers of deep blue. *Persicifolia* covers a large space, for not only do the root-stems wander quickly, but it varies greatly. There are five forms at least of white varieties—one, known as *coronata*, having a curiously puffed and puckered calyx. The type itself is by no means bad, but some of the varieties in both white and blue are great advances from the gardener's point of view, notably the one known by the long name of *C. persicifolia alba grandiflora*, and you may see amongst chance seedlings several shades of blue to match this for size and shape of flowers. Nobilis is not so gay-looking a subject, but it strikes one by its peculiar arrangement of the flowers. Grandis and generosa are useful for their sheets of colour, and the white variety of the former is very telling. As you cast your eye still further back, you see the giants of the genus, with, in front of

them, yet a few more of intermediate stature. These comprise americana, with, by its side, the distinct and very uncommon bononiensis. We hal a moment whilst reviewing this—it is so remarkable. It has long slender stems of 4 feet, arching outwards, and all the flowers for nearly the whole length are open at one time. They furnish the stem in a one-sided fashion like a Foxglove, and the flowers rather resemble those of the Foxgloves, but are much smaller. It is a tall planting as we see, especially viewed at a short distance.

What is that lovely 5-foot, strong-stemmed and diffusely branched kind, with myriads of flowers of medium size? The milk-white or pale blue Latifolia at once truly suggest it as *laetiflora*. *Latifolia* among the shrubs and near the trees, common as it is, is pleasing. C. van Houttei and Bourgatii are a capital match. They have extravagantly large flowers, exceeding the common Canterbury Bells, with the rims of the bells deeply cut, and did they not by the weight of their big flowers bend themselves too low, they would perhaps be more conspicuous. A wealth of beauty they undoubtedly possess, but it is not displayed to advantage. Still it were wise, I think, that these were placed here, as they constitute a somewhat distinct type. *Sarmatica*, and even the common *urticacea*, contribute their quota to the Campanula garden, as seen yonder in the deeper shade. But I fear we shall have to leave the imaginary garden without noticing many other worthy denizens. For whoever can go into a garden where there are such vast variety and so much individual beauty that could take note of all in a single visit.

NOMENCLATURE.

Some of the names just mentioned may have but slender botanical authority, especially in reference to the varieties of the types. Still they have the sanction of the usage of gardeners, and so may be more or less justified, apart from the stricter botanical point of view. Speaking of names in relation to the facility of identifying the plants, the genus *Campanula* doubtless has long puzzled, and still continues to puzzle, the gardener. When a man has had experience in growing a large number of species in one garden, and has noted the result of self-sown seed, he no longer wonders that many forms prove puzzling. The mere fact of a large genus, the way in which some forms overlap each other, the difference in the habit of a given species as grown in captivity compared with its habit in a wild state, the large number of synonymous names and the too frequent employment of obsolete nomenclature—all go to mystify our conclusions as to the identity of our material. I fancy I am not far wrong in saying that, generally speaking, gardeners do not realise how vast the variety of *Campanulas* is, and as a consequence of this the genus is not yet fully appreciated by them. And the indubitable fact that to the average gardening mind the nomenclature of the *Campanulas* (at least as they are distributed in commerce) seems all in a muddle is hardly calculated to promote a larger employment of these decorative flowers. And yet it is precisely as a gardener that I would like to urge my humble opinion, that with a little pains the types may be fairly well recognised. As for the varieties, we cannot, even if we would, hope to master them in the sense of finality, for, besides natural hybrids, we get numerous garden varieties, especially where several types are growing close together as in a collection. But when once one has reached the point of sufficient experience to be able to pick out the varieties, and group them around their respective types, then

the haze of doubt in a great measure dispenses, though even still, when you come to individuals, you may sometimes be long in doubt, and require more than one light by which to find your way out of the difficulty. As one thinks about these flowers the subject seems to open up wider and wider; in fact, we have all in the *Campanulas* that can interest alike the botanist and the gardener; there is scope for the exercise of all those thoughts and arts which render gardening so pleasurable, but time forbids me saying much more on the present occasion, although I have not yet touched on culture and propagation. Suffice to say that, though generally the *Campanulas* have a robust habit, and are propagated by the very simplest and easiest means, there are some kinds which are almost the reverse, and have special requirements and peculiarities. Whenever we investigate these plants it is always better to do so in relation to environment, for it goes without saying how many and how varied are the conditions of different gardens, and it is often among these varying local circumstances that we find the real causes which alone account for the different results attained. Generally, too, the *Campanulas* flourish, and increase in size in all their parts, under cultivation as compared with wildlings, and no doubt many of the alpines experience their greatest troubles from a too kind and generous treatment. I daresay that some *Campanulas* are practically impossible in some gardens, but such exceptions would be very few indeed could we trace out and avoid the excessive artificialism of some gardeners' cultural methods. This shifts the responsibility of non-success in great measure from the plant to the planter, and, to make my meaning clear, I will glance at one example. Take *C. Raineri*, a very dwarf alpine with thickly pubescent herbage and somewhat thick underground stems. Its roots, to my mind, seem to have peculiar requirements both in regard to air and moisture, and their requirements may be met by keeping them near the surface, as on a moist stone ledge with a covering of well-consolidated soil, not more than 2 inches or 3 inches thick. With a deeper root-run I have found the roots to be rank in summer and to rot off in winter. On the stony ledge they seem to grow longer and faster, and to be much more wiry. We have here, in fact, to humour a plant whose roots have very finely balanced requirements in the way of a free atmosphere and moisture, whereas in regard to quality of soil it shows a corresponding amount of indifference. In the

CULTIVATION.

If *Campanulas*, whether in the style of a Campanula garden or otherwise, it would perhaps always be advisable to prevent the escape of seed, even if we sowed the seed otherwise, because when the seed is self-sown the unaccountable ways in which it comes up and develops will upset all our ideas of classification, and, worse still, the strongest and perhaps coarsest forms will obviously prevail, and in a very short time such self-sown seedlings will doubtless upset the best arranged planting of carefully named varieties. So insidious do those seedlings seem to be, that it almost appears as if they were actually conspiring to cheat you, especially when they implant themselves in the heart of a choice kind, or correctly-named group, and in a comparatively short time might easily be taken by a casual observer to be the rightful owners of the positions and the names. In speaking of propagation I shall take the term in its more precise meaning—the increase of a desirable variety by means of small parts

taken from a common stock. I should hardly consider this analogous to "propagation with a spade," cutting off a slice of the matted roots of, say, such free growers as *pusilla*, *carpatica*, or *turbinata*. The increase of these implies no care or skill to speak of, for they carry a full complement of all the parts essential to free growth, without artful or helpful means. I think it is rather important for the propagator to keep these distinctions in mind, because of the widely varying root habits of the sections, and even of the individuals. For instance, the tap-roots of *C. Hendersonii* being furnished with fine fibre, you may propagate it readily if the season of the year encourages growth by reason of its warmth and long light days; but you may not pull this plant asunder in the dormant season with impunity. Just the same may be said of pelviformis in the *carpatica* group, and there are others; but I prefer those better-known and common forms as examples of my meaning, as then, if my words have any value, they will have a more extensive application and may easily be proved.

There is another feature about the roots of many *Campanulas* that may have been observed by those who handle them in numbers; some of the fastest growers are remarkable for the way in which their roots become almost invisible during the winter. Instances of these are to be found in the *carpatica* group—*e.g.*, G. F. Wilson and one or two nearly related hybrids. Likely enough they inherit this from one of their supposed parents—*pulla*—because *pulla* is as remarkable as any for this habit; and may we not take it that, whenever a plant so closely reefs or contracts its physical parts, we may only deal with it for propagation when the roots are in a growing state? Anyhow, it is a fact that we succeed with their propagation vastly better when in a sprouting or verdant condition, as opposed to the dormant state.

SHORT NOTES.—FLOWER.

Phlox Purest of All is worthy of note. As the name implies, it is white. The pigs are large individually, and the trusses of large size, the growth dwarf and sturdy.

Dahlia Salisbury White.—This is not a true Cactus-shaped variety, but it is nevertheless a most valuable sort for cutting. The flowers are pure white, neatly formed, and freely produced, the stems long.

Phlox Sylphide.—This is one of the purest of the white Phloxes, the flowers excellent in form and of good substance, the truss large, and the habit vigorous.

Phlox Coquillettii.—A variety of the herbaceous Phlox with flowers of the largest size, and in colour the most intense salmon-scarlet. One of the handsomest forms we have seen.

Carnation Burn Pink.—This is also known as Duchess of Fife. It is a grand variety of capital growth. The flowers are rich flesh-pink, not over-large, but do not burst their pods. It is first rate in the open border.

Carnations.—Adjacent to No. 4 greenhouse at Kew are several masses of Carnations in full bloom, the varieties being *Raby Castle* and a rather tall-growing free-flowering crimson. For hardiness and freedom these are undoubtedly excellent in every way.

Cactus Dahlia Earl of Pembroke is an extra fine variety; colour plum, with quite a velvety appearance. Flowers, which are not over-large and have the twisted Cactus form so much admired, are thrown well out of the foliage, a point that should always be insisted upon. The growth of the plant is also excellent.

Carnation Gloire de Nancy.—This variety is not inaptly called the White Clove, and is among the most valuable for the supply of a quantity of nicely formed blooms. I saw it in abundance lately. The plants in question are two years old. They

floured last year, were duly layered, and not replanted singly, resulting in immense clumps from 2 feet to a yard through, which are bearing hundreds of blossoms.—H.

NOTES OF THE WEEK.

Wild Pansies.—I enclose some flowers of the wild *Pansy* (*T. triolor* and *V. triolor* arvensis), a bed of which has been in bloom here for some time and is at present quite as effective as many a bed of what are considered as orthodox garden flowers.—W. M.

Rhododendron Princess Frederica.—This is one of the many charming greenhouse varieties a selection of which should be grown in all gardens where glasshouses abound. The flower trusses of this kind are of good size and of a distinct yellowish buff tone that is very pleasing.

Pelargoniums from Woking.—Mr. Shoesmith, of Woking, sends us some fine specimens of Pelargoniums, a lovely lot of glowing colours, the orange-red shades being as fine as one could wish for. Among the best are Ollivier, Lord Farrar, M. Calvat, George Gower, and Golden Gate.

Teucrium montanum.—A pretty and free-flowering rock plant, with numerous pale yellow blossoms on dwarf, dense carpets of leaves, that cling quite closely to the stones. The above has grown and flowered quite freely in a dry spot with very little notice; indeed, it is suited to dry positions and a rather poor soil.

Hypericum patulum.—Two oblong beds at Kew are now ablaze with the flowers of this pretty shrub. To equal advantage this species may be employed as a margin to bolder things, such as Rhododendrons and the like. In another position a large bed is fully occupied by *H. Moserianum*, with it somewhat large flowers.

Verbena venosa.—This hardy Verbena has close heads of purplish blossoms that come in great profusion for a long season. It is a good plant for permanent beds, and an excellent subject for edgings to large beds. The plant has been in full flower for weeks past and still promises a display for some time to come.

Bougainvillea spectabilis.—This showy greenhouse climber is now flowering profusely in the succulent house at Kew, where its distinctive shade of colour is very attractive. It is perhaps the most showy of all, the flowers large and rich in colour by comparison with those of some other kinds. Allowed a fair amount of freedom, it is among the most ornamental of climbing plants.

Lilium Harrisii.—This season the first large importation of *Lilium Harrisii* from the Bermudas was disposed of on August 7, and good, well-ripened bulbs they were, and that too at a time when the same *Lily* out of doors in this country was in full flower. For early forcing this *Lily* is now grown to a very great extent, and large sums of money must be paid to our brethren across the Atlantic for the bulbs.

Lilium nivalis.—A gem in its way. It is the smallest and daintiest of its race, the flowers of the purest white, the whole plant only growing about 3 inches high. It is the first to flower, and has generally gone to rest by the end of May. *T. erythrorhacum* may also be mentioned in this connection; it is of moderate stature, the flowers pure white with a red spot at the base of each division.—T. SMITH, *Newry*.

Iris in bloom in August.—I have sent you this day by sample post a few buds of Iris variicolor, which I consider rather an unusual occurrence, as this is the second time the plants have flowered. We have had here a rather unusual dry and hot summer, and I think this may be the cause. I should be glad to hear further about it, as perhaps some other grower may be able to give an explanation.—W. GRIESINGER, *Ghent*.

Erigeron mucronatus is a charming little plant with coloured blossoms almost Daisy-like in

character, but of a pink-red hue, and afterwards nearly white. The plant is often met with under the name of *Vittadina triloba*, and makes an excellent summer rock plant, of easy culture and spreading quite freely. In a large group 2 feet or more across there are always several shades of colour that make it both interesting and pretty.

Trillium stylosum.—This is one of the most beautiful plants which flower here this season. Indeed, it is about equal to the well-known *T. grandiflorum*, and the flowers droop in the same manner. In colour they vary from soft rose to deep red. It is hardy and vigorous, and likely to just as good a garden plant as *T. grandiflorum*. A peculiar character of the plant is that it retains its leaves until quite late in the summer.—T. SMITH, *Newry*.

Blue Hydrangeas in Cornwall.—I am sending you a photo of our big Hydrangeas and also some flowers. Seven hundred and twenty-five blooms were counted on it on August 17. It has been in front of the office here for thirty-five years, and, beyond a little top-dressing of leaf mould, has had little or no attention.—C. ROGERS, *Burncoose, Perranwell, Cornwall*.

* * * Of varied and lovely colour, delicate porcelain blue and purple.—ED.

Siphium laciniatum.—There is something very distinct and pleasing in the soft clear yellow blossoms of this handsome plant. It is a plant eminently suited to the wild garden, thriving in the stiffest of clay soils and often attaining to 6 feet or 8 feet high. It is also well suited to the higher parts of the rock garden, and in this latter position may now be seen flowering at Kew. The plant is readily increased by division, and may with advantage be more frequently seen in the woodland or shrubby borders.

Campanula Vidalii.—This very distinct species is now flowering in No. 7 house at Kew, and in the large drooping, wax-like blossoms is quite distinct from other species. The flowers are pure white, very thick and fleshy, almost uncurlable in outline. Internally it is well marked by a bright orange-coloured ring about the disc, which gives it a striking appearance. The leaves are also thick, and almost succulent and scarcely toothed. The plant is perennial, though not hardy, and must therefore have protection in winter.

Begonia metallica.—This fine plant is without doubt a handsome and useful subject for decoration. Some handsome groups of it may now be seen in No. 4 greenhouse at Kew, where the plants are at least 5 feet high and freely and profusely flowered. In plants of this size the fine trusses of pink and white flowers appear in striking contrast to the metallic lustre of the handsome bronzy-purple leaves. There are many other kinds in flower, but the above is one of the most attractive and productive of good effect, the plants being arranged in groups of half-a-dozen or so.

Zephyranthes Atamasco.—This charming bulbous plant is now producing quantities of its pure white, almost Crocus-like blossoms. It is a capital plant in partially moist places, and may be made quite content in the drier parts of the bog garden where a fair depth of moist, fairly rich soil is at hand. The plant increases rapidly at the root, and for this reason should be divided and replanted every three or four years. There are so few plants of like character in the hardy plant garden just now, that its presence is the more welcome.

Gentians asclepiadea alba (White Willow Gentian).—In quite moist and shady positions at Kew, in company with Ferns and the blue Poppy of the Himalayas, some large specimens that have attained to quite exceptional size are now flowering abundantly. As sometimes seen in rather dry herbaceous borders, the growth puny and the points and margins of the leaves browned as though scorched, these giant plants would scarcely pass for the same thing. But it is an object lesson of some worth of what may be done

when the conditions essential to success are at hand. Equally fine, too, is the typical species.

Viola pedata (Bird's-foot Violet).—A most beautiful species that should grow freely in all collections of alpine plants. Just now a very charming group is flowering in the rock garden at Kew, and its lilac-blue flowers—often with a much deeper shade in the upper petals—are very showy. The plant gives but little trouble, and in most gardens grows quite freely in moist, sandy peat, with the addition of some shade. Plants may be readily raised from seed, and these, if pricked out into deep, moist soil quite early in spring, will soon take care of themselves, and many flower during the first season. Grown in this manner, few things are more effective in a group, and a cool shade should always be had for such.

B. ovalia (*Streptosolen*) *Jamesonii*.—It would perhaps be difficult to name a plant of shrubby habit suited to the cool greenhouse that could equal this in its great freedom of flowering or the rich profusion with which its blossoms are produced. In the brilliant orange-red masses of flowers it is also one of the most striking of summer flowering plants. Large plants would make a most effective bed. A good example of what may be accomplished in about a year with this plant is shown at the last Temple show, when Mr. Bennett's Pot exhibits a group of it in large pots, each plant fully 3 feet high, and fully flowered. The only precautions needed are firm potting, to thereby ensure short, firm-jointed growth, and one or two timely stoppings in the early stages, after which the plant should have its own way. When well exposed in the open the flowers are more richly coloured than when under glass. A coloured plate of this was given in *The Garden* of July 5, 1884 (p. 6).

Echinacea purpurea.—This showy "Com-e-flower" is among the most desirable and striking of border perennials now in bloom. The peculiar colouring of its flower-heads is somewhat scarce among hardy subjects, and for this reason also the plant is worthy of every encouragement. Where it can be afforded from 2 feet to 3 feet of rich sandy loam, this Echinacea will not only develop its best qualities, but will make a most imposing group in the bargain. Unfortunately, it is not so readily increased as are many Cone-flowers, which spread rather freely by rhizomes, and seeds are only sparingly produced at the best, the latter vegetating but very indifferently. But in spring with renewed growth it may be divided with care, and every growth bud that can be severed from its woody rootstock with roots may be relied upon to make a fair-sized plant if put out singly into good soil at once. This method of increase is far better for the safety of the plant than potting, while the after labour is reduced to a minimum.

Old China Roses under new names.—It is always pleasant to meet with a good new sort in this useful and constant flowering group, but not at all agreeable to have in old kind foisted upon us under a new name. Quite recently Red Pet was sent out with a great flourish of trumpets, and, if my memory serves me, was awarded a certificate by the floral committee of the R.H.S. Instead of this being new, it is nothing at all but the very old Nemesis which we have had for ages. Later on came one named James Sprunt. There is rather an American flavor about this name, and it is possible it comes from there, but now this turns out to be merely the old climbing Cramois under a new name. Another very similar instance is the case of the now well-known Landed Carnation Uriah Pike. Now this has settled down, no one, hereabouts at any rate, can discover any difference between it and the crimson Clove; there may be just the least difference in the grass of the two plants, but the flowers are absolutely indistinguishable, the one from the other.—T. SMITH. *Nevry.*

* * * The carnations referred to are quite distinct both in growth and flower. We have seen Uriah Pike quite 4 feet high and flowering freely. Again, the fault so common in the old

Clove of the calyx splitting is quite absent in the new-comer, which, in addition to its other good qualities, can be struck freely from cuttings. We have grown Uriah Pike in the open this year, and it has quite exceeded our expectations, not the least sign of the splitting of the calyx being visible.—ED.

PUBLIC GARDENS.

A recreation ground for Richmond.—A movement that has been on foot in Richmond for some time to acquire a portion of the Old Deer Park from the Crown for the purposes of a recreation ground for the borough has advanced another stage. After receiving the consideration of the Richmond Town Council it has been referred to a committee, who will go into the whole question. It is proposed to ask the Crown to lease to the corporation about 87 acres of the Old Deer Park at a rental of £325 per annum, and to lay this out as a recreation ground. It is also sought to make a path across the park from the railway station to the lock and weir, as well as to lay out a portion of it for allotments, the demand for which it is said, is increasing. The Crown, it is understood, will place no serious obstacle in the way.

Open spaces in St. Pancras.—According to reports issued, St. Pancras, taken as a whole, seems happily endowed with open spaces. In the Kentish Town sub-district, where the density of persons per acre is fifty-nine, there are Parliament Fields, with its 267 acres, 2 roads, Waterlow Park, 29 acres; Highgate Cemetery, 38 acres; Pond Square, Highbury, 3 roads, 20 poles, and several smaller open spaces. In the Regent's Park sub-district, where the density of population to acre is eighty-seven, Primrose Hill Park and Regent's Park combined provide a breathing ground of 400 acres. Camden Town has St. Martin's Gardens and St. Pancras Gardens, together yielding 6 acres 4 rods of open space. The density of persons to acre in this sub-district is ninety. Turning to Somers Town, where the density of population to acre is 181, it is found that its inhabitants, in the possession of St. James's Gardens, have only an open space of 2 acres 2 rods 31 poles secure for ever against building operations. Tottenham Court sub-district claims for its own Whitfield Burial Ground. This division of St. Pancras has relatively to each acre 183 inhabitants. Finally the Gray's Inn Lane sub-district, with a density of persons per acre of 178, possesses two burial grounds laid out as recreation places, which combined are not 4 acres in extent.

Applying artificial manures.—I find it a capital plan before spreading artificial manure over growing crops such as Onions to mix with it a portion of fine soil. Potting shed refuse passed through a coarse sieve answers as well as any, using the soil and manure in about equal proportions. The crops then get the benefit of the manure to a far greater extent than when it is applied unmixed. It gets washed down to the roots more quickly and more thoroughly than when it lies completely exposed on the surface, in which case often becomes baked and hard, and is to a great extent wasted. Let anyone try the experiment by dressing in both ways two small plots of Onions growing side by side, and the truth of my assertion will soon become apparent.—J. C.

Compte of fresh fruits.—I shall be much obliged if any one can tell me how to preserve Plum Damsons and similar fruits in the way they do them on the Continent. A compote of Plums or Pears is served daily as a matter of course in Germany at both luncheon and dinner, and this is invariably sweet and in good condition.—J. H. T.

* * * The compote used in all the best houses in Germany consists of so-called "arrack fruits," and in our household we are never without them all the year round, as they are very handy and the method of preserving them is very simple in-

deed. The vessel best adapted for the purpose should be made of china or earthenware, but must be well glazed and should be of considerable depth.

The fruits are not boiled or heated in any way, but remain raw and fresh and of a delightful flavour. A bottle of good arrack rum (white rum) or other kind of spirit is poured into the vessel, and then follow the fruits one kind after another, according to their season of ripening. First come Strawberries, which are very suitable indeed, then Cherries which have been freed from their stones, then Peaches, Nectarines and Plums (all without stones), and last good Fruits from the tree, the skin and stalks having been removed. Raspberries, Gooseberries and Cumquats are not very suitable. With every pound of the raw fruit a pound of sugar is put into the preserving pot until 8 lbs. or 10 lbs. of fruit are thus preserved. After that quantity, every additional pound of fruit should have only half a pound of sugar, as otherwise the compote will be too sweet. At the beginning of this very simple process of preserving, the first lot of fruit should be stirred with a silver spoon to prevent the sugar from encrusting the bottom of the vessel. If a very large quantity of fruit is to be preserved in the same vessel, it may also be necessary to add more of the arrack rum (or other spirit). The vessel must be well covered to exclude all air.—F. W. MEYER, Exeter.

Photographs of gardens.—Photographs and other illustrations of suburban and rural gardens and scenery are now on view at the "One and All" flower show at the National Co-operative Festival at the Crystal Palace.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, August 25, in the Drill Hall, James Street, Westminster, 1 to 4 p.m. A lecture will be given at 3 o'clock by Mr. T. J. Jackson, F.R.H.S., on "Forcing Lily of the Valley."

The weather in West Herts.—A week of changeable weather, as regards temperature. For instance, on the 13th the maximum in shade rose to 75°—the highest shade reading as yet recorded here this month—but two days later it did not exceed 65°. Again, on the nights preceding the 16th and 17th the exposed thermometer registered readings only 6° above the freezing point; whereas during the following night the same thermometer never fell lower than 34°. Both at 1 foot and 2 feet deep the temperature of the soil still remains slightly above the August average. Some rain fell on four days during the week, but to the total depth of little more than a quarter of an inch. Shortly before mid-day on the 15th there occurred a heavy shower, when for three minutes rain was falling at the mean rate of nearly an inch an hour. No rain-water at all has as yet come through the light soil percolation gauge, but on each of the last two days a few drops have come through the one containing heavy soil. The atmosphere proved, as a rule, very dry and the record of bright sunshine about average.—E. M., Berkhamsted.

Antirrhinum (Scalpel).—Insert the cuttings now.

Marguerite Carnations (Scalpel).—It is worth while to keep them over one year.

Propagating Saxifraga pyramidalis (Scalpel).—All ways are good. If the soil and situation suit alpine flowers, we should not hesitate to propagate them in the open air; if not, pot up the offsets and keep in a cold frame through the winter.

Jadou fibre.—Will someone kindly tell me if Jadou fibre—used last year for pot culture of Hyacinths in a town—will answer again for this year, or if any artificial manure ought to be added to it?—GLASGOW.

Names of plants.—*W. Silcock*.—Orcidium incurvum. *G. Cullen*.—Var. of *Althaea fruticosa*. *G. T. G. F.*—1. *Spiraea californica*; 2. *Gaultheria parviflora*; 3. *H. P. M.*—1. *Spiraea confusa*; 2, probably *Staphylea pinnata*.

Names of fruit.—*R. P.*—Devonshire Quarrenden

No. 1293. SATURDAY, August 29, 1896.

Vol. L.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ROSE GARDEN.

POLYANTHA ROSES.

It is not surprising that these charming miniature Roses have become so popular when we consider the many uses to which they are adapted. For massing there are very few Roses to equal them. They are compact in growth, dwarf, and exceedingly free flowering and perpetual. They make splendid edging plants for the Rose beds or borders, for they can be kept as dwarf as we wish them. Oftentimes we have small borders in front of greenhouses, &c., or we may desire a low hedge of Roses; we should find these Polyantha varieties admirably suited to plant in these positions. Grown in the form of short standards they make pretty objects for the centre of a bed. They are equally valuable for conservatory decoration; the profusion of flowers and their lasting character make them a very welcome addition in midwinter. Often as many as fifty buds and blossoms can be counted on one panicle, but the average number would be twenty. If cultivated in 5-inch pots these lovely Roses would make pretty table plants, or for putting into window-boxes. In fact, these Polyantha Roses in the hands of a skilful gardener could be utilised in a variety of ways. There are now in the market numerous varieties, but only good bright colours should be tolerated, as there is no room nowadays for dull, uninteresting Roses, and on no account must the size of the flowers be increased, for their main charm is centred in their Liliputian character. Already we have white, cream, orange, and pink; therefore if a bright crimson like Crimson Rambler, but dwarf, could be obtained, and perhaps a rich maroon, we should have all that we could possibly require. I would recommend that they should be cultivated either on the seedling Briar or on their own roots, and a light, well-drained soil suits them best. I give below a list of the best varieties, placed in order of merit. Those of a climbing nature I have not included.

PERLE D'OR.—Deep yellow with orange centre. Very beautiful double buds. Makes a fine pot plant.

GLOIRE DES POLYANTHA.—Deep rose with white centre. An exceedingly abundant bloomer, and certainly one of the best.

ANNA MARIE DE MONTRAVEL.—Pure white, very small, and full, extremely showy and free.

MADAME E. A. NOLTE.—Buds of a clear apricot colour, expanded flowers almost white. A beautiful variety, the buds and expanded flowers contrasting splendidly.

BLANCHE REBEATEL.—The deepest colour yet obtained. The flowers are of a deep magenta, and produced in great numbers on each panicle.

CECILE BIUNNEL.—Rosy flesh. The buds of exquisite beauty, perfectly moulded.

ETOILE D'OR.—Pale chrome-yellow, very beautiful, but not very vigorous.

PAQUETTE.—Pure white, very small, produced in immense panicles.

MIGNONNETTE.—Soft rose shaded white, small, very lovely. Free bloomer and good grower.

GOLDEN FAIRY.—Buff-saw, shading to pale straw. A good variety of free habit.

CLOTHILDE SOUFRÉ.—This cannot be omitted, although it is large for this class. The shape of the flower is its great point. This can be only

described as perfect. The colour is a beautiful rosy-white, and it makes a charming pot plant.

GEORGES PERNET.—Yellow and peach colour, rather large, but very freely produced. P.

ROSE BELLE LYONNAISE.—This is an old favourite and belongs to the now numerous Dijon group. Its large sulphur-yellow flowers, deepening in the centre to rich lemon, are of fine shape; the buds are also very beautiful. It makes a splendid climber on a south wall, or it repays us well if we grow it in standard form.

ROSE LE SOLEIL.—This appears to be a seedling from Belle Lyonnaise; it is, however, a totally distinct variety, the flower having a more refined appearance. The petal is thick, and it reminds one of a pale coloured Maréchal Niel. The colour is a beautiful rich lemon-yellow shading to pale yellow, and there is a faint tinge of carmine on some of the petals. It is not so vigorous in growth as Belle Lyonnaise, but would make a good medium climber and a first-rate standard.

ROSE CHARLOTTE GILLEMET.—This Rose is one of the most distinct varieties that has been introduced for many years. It reminds one of a lovely flesh-tinted Camellia alba plena, and the petals are thick and perfectly arranged; the expanded flower is quite 4½ inches in diameter. It is said to be a cross between Lady Mary Fitzwilliam and Hon. Edith Gifford, and it partakes of the colour of the latter beautiful variety. The growth is moderate, but not at all weak. It cannot fail to become popular as an exhibition variety.

ROSE MME. PERNET-DUCHER.—Of all the lovely button-hole and garden Roses, this one stands out prominently as one of the best. The colour of the beautifully formed buds is a rich cream, edged with pale lemon. The expanded flowers, which are only semi-double, are almost white. Each shoot is crowded with from ten to twelve buds and open flowers, which are produced on stiff stems, making this Rose an ideal variety for massing. It is of good vigorous growth.

TWO VIVID HYBRID PERPETUAL ROSES.—The two most brilliant Roses among the H.P.'s flowering just now are Victor Hugo and Duchess of Bedford. The former is a rich velvety scarlet, shaded maroon. It is not very double, but it amply compensates for this defect in its brilliancy and free-blooming qualities. It is of rather moderate growth. Duchess of Bedford is of a totally different character. It has grand petals, the outer ones being tinted down the centre of each with a peculiar purplish colour, the remainder of the flower being intense scarlet-crimson. It is a fine exhibition and garden Rose, even at times it is a little thin. The growth is very vigorous.

ROSE FIAMMETTA NABONNAND.—This splendid novelty—introduced by Nabonnand in 1894—is now showing its true character. It is said to be a cross between Papa Gontier and Niphétois, and it partakes much of the style of the former, especially in its refined beauty when the cooler days of autumn arrive. The flower is globular in form, rather thin when expanded, but in the bud and half-open stage the peculiar beauty of this variety is seen to best advantage. The colour under the half-open buds is ivory-white at base, but the points of the flowers, which is rounded off egg-shape, is beautifully and richly coloured with rose crimson. This colour extends downward quite half an inch and gives this Rose a novel as well as a charming appearance. The growth is very similar to that of Papa Gontier, and it has a sweet perfume something like Violets.

ROSE HOMERO.—The most useful kind is seen in most gardens, and highly prized for covering low walls and as a bush in favourable places. Many people are charmed with it for cutting from for button-holes, &c. For this purpose it is grown extensively at Rousden. The gardener, Mr. Jacobs, has it planted in a small house by itself, and in this position it blooms most pro-

fusely. It was told it was seldom out of bloom, and no kind gives more satisfaction for cutting. There were only two plants in the house, but they were in the best of health and full of bloom at the time of my visit.—DORSET.

CHINA ROSE LAURETTE MESSIMY.—This pretty Rose was raised in 1887, and as yet is none too common. The colour is a charming combination of rose and yellow. Its blossoms are not large individually, but of nice shape and borne in fine clusters. The plant is charming grown as a standard about a yard high. We lose the full beauty of many Roses as dwarf trees, but when budded on the Briar at the height named one may comfortably inspect the flowers.—S.

CHINA ROSE ORAMOISI SUPERIEUR.—In the rage for large full blooms as seen at exhibitions one is apt to pass by many beautiful Roses. The Rose noted may be classed as such, for a richer scarlet-crimson it would be difficult to find. It is of moderate growth as a dwarf plant, but I saw it growing capitally budded on Briars about a yard high. In this form it is a very showy object, being exceedingly free flowering.—H.

UNCOMMON ROSES AS STANDARDS.—I saw recently a number of Roses budded on the Briar about a yard high composed of varieties and species that, to say the least, one is usually accustomed to see grown in other forms. They were most interesting. For instance, the Japanese Roses, varieties of rugosa, covered with large red petals, crimson it would be difficult to find. The foliage of these is striking, and the blossoms, although single, are pretty. Alba rubra and Mme. Georges Brûau (semi-double white) were all represented by well-balanced heads on clean straight stems. The tiny-flowered Polyantha Roses, again, make first-rate standards. Gloire des Polyantias, rose and white, is charming; Etolie d'Or, chrome-yellow, and Ma Paquerette, pure white, give large trusses of flowers. Perle d'Or, buff-yellow, is excellent. Cécile Brunner, blue-pink, is distinct and pretty. Turner's Crimson Rambler does not seem so happy on the Briar. The Manetti appears the stock model suitable for this fast-growing Rose. Several plants of the Austrian Briar Rose were conspicuous with nice-shaped heads, but the blooms are past before August. Austrian Copper, Austrian Yellow, and Harrisoni do equally well. I noted Lord Penzance's new Sweet Briar growing uncommonly strong bushes as standards. What fine objects these would make worked on Briars 6 feet or so high and allowed to grow almost at will! Janet's Pride, white with crimson stripes, is an attractive Sweet Briar very little known. The striped York and Lancaster is also beautiful when grown as a standard.—S.

TWELVE GOOD YELLOW TEA ROSES.

YELLOW IN TEA ROSES seems to be the popular colour, in addition to which the plants are, as a rule, of stronger constitution than those bearing mixed coloured flowers. More yellow than mixed coloured Teas by far appear in florists' windows, and in going through any large market grower's establishment one cannot but be struck with the predominance of yellow varieties. I am not depreciating the many beautiful forms other than yellow; I admire them as much as anyone; but for the guidance of those who, as producers, are obliged to study fashion in flowers, I give a list of varieties which will be found to give satisfaction either for growing in pots or for planting out in borders in ordinary Rose houses. Amszone is a capital Rose, and having rather elongated buds, will be found most useful for bouquet work when half expanded. Comtesse de Nadillac, a charming variety, is really one of the best of the section, its fine full flowers of apricot shade being very imposing. Its vigorous growth is also a point in its favour, and I have found it a most excellent forcing Rose, although, of course, its bri-

Rose is somewhat reduced under such conditions. Comtesse de Nadillac should be included in every collection, however small. Etoile de Lyon is a most useful Rose, being of fairly free growth, and yielding its sulphur-coloured flowers, which are bright yellow in the centre, in profusion. Another free bloomer of the pale yellow section, and one which has held its own for a good many years, is Isabella Sprout. I cannot say much in its favour as a force, but no fault can be found with it when planted out and allowed to come on gradually. La Boule d'Or is another of the same type, but yellower in the centre, the blooms under good cultivation being very full and fine. Mme. Falco, a rich orange-coloured Rose, is very useful if taken in the bud state, although it quickly collapses after reaching the half-expanded state. One of the most beautiful Roses amongst yellow Teas is Mme. Hoste, large, full, and of a brilliant yellow shade. Its constitution is good. A useful Rose, the colour of which would, perhaps, be termed by some more salmon than yellow, is Mme. Trifé; this is a seedling from Gloire de Dijon, which it to some extent resembles in freedom of growth and blooming. Medea, a handsome, full-lemon-yellow canary-centred flower, is another reliable Rose of vigorous growth, and worthy of a place in limited collections. The bloom is extra large even when in the bud state. Perle du Lyon, deep yellow, often changing to apricot with age, is a Rose which will take a lot of beating by any other of the same colour, and one which in vigour of growth is surpassed by none. This is a favourite with market growers, which fact is of itself a pretty good recommendation. Perle des Jardins, another favourite with market growers, is indispensable. The flowers, which vary in colour from a bright straw to a deep yellow, are produced in great numbers on the many stout growths the plant annually makes. When at Mr. Beckwith's immense establishment some time ago I saw in pots a great number of this Rose, which were then being pruned for early forcing. I was told that it was the most profitable Rose they grew. There is now a climbing form of Perle des Jardins, a sport from the original, and most useful for training over walls in conservatories, or for covering south and west walls. Princess Beatrice, a pale yellow flower, the edges of the petals slightly coloured with rose, blooms very large and full, and growth vigorous, and Sunset, an apricot-coloured variety of great merit, also a very free bloomer, complete the list.

J. C.

SHORT NOTES.—ROSES.

Rose White Lady (H.T.).—This magnificent Rose, now that the weather has become cooler, is especially in great form. It has about the largest petal of any Rose I know, and the colour is of a most delicate blue, shading off to white. The foliage is not nearly so double as its parent Lucy Mary Fitzwilliam, but the growth is certainly better.—E.

Rose Madame Bois.—It is surprising that such a lovely Rose as this should remain so much in the background. I consider it one of the very best of the numerous progeny of Victor Verdier. Its colour is pure pink, two or three shades deeper than that of Mrs. John Linnell. It is of good sturdy habit, and always in flower, though rather late for exhibition or garden decoration, and its beauty had almost rivals that of Mrs. W. J. Grant.—P.

Rose Duchesse d'Auerstaedt (Tea).—This climbing Rose is as vigorous as Rêve d'Or. The flowers are large and of a beautiful golden-yellow, shaded at the base with a cinnamon or saffron tint. It would certainly be fine Rose for covering a south wall quickly; nor it has the true standard habit which is not always found in these so-called climbers. This treatment prevents both the fruit and leaves from becoming cold during clear nights,

is not hardy, but it will amply repay for any extra attention in this respect.

Bourbon Rose Mrs. Paul.—On further acquaintance with this comparatively new Rose I am not so much struck with its beauty. In the first place well-formed flowers are rare, and when they do come perfect, there is a stiff Camellia-like look about them that is far from being attractive. It has, however, a good hardy constitution, so that there is no difficulty in growing it.—H.

Rose G. Nabonnand.—To see this at its best we must go to the Rose garden in the early morning, when the dew is still on the petals. Its rose-like petals keenly arranged, and of the most delicate pink and ivory-white tints, can never be forgotten. The petals are so loose that the slightest breeze appears to move them. As in the case of the majority of these semi-double roses, the buds are charming, and the growth is as strong and vigorous as that of Marie Van Houtte.

KITCHEN GARDEN.**SPOT ON TOMATO LEAVES.**

CAN you tell me the cause of the spots on Tomato leaves? I have given the plants for manure an ounce of sulphate of ammonia to a gallon of water once a week. Has the disease been caused by over-watering? They have had plenty of air. I lit the fire only for a few days when we had so much damp. They are carrying a very good crop of fruit.—A. WATSON.

* * * If the damage to the plants had been caused by sulphate of ammonia, and one ounce to the gallon of water is a strong dose, flagging would most probably be one of the first symptoms of distress. The leaf sent was somewhat dry and much flattened, but I have no doubt about this being a bad case of cladosporium, a disease of a fungous nature which at one time threatened to practically ruin the Tomato industry. All the while the weather remained hot and dry very little of this disease was observable, but directly there came a change to moist, sunless days, then cladosporium was again in evidence. It is known as the "yellow spot" among the Channel Island and other market growers, owing to yellow spots showing on the leaves wherever the fungus has destroyed the tissue from the under side. To many these spots are the first indications of the trouble in store, but the experienced cultivator is ever on the lookout for diseases of which there are far too many, and directly a few black fluffy or mildew-like patches of fungus are seen on the under side of the older leaves, a change of treatment is commenced at once. The Tomato must not be subjected to a heated, moisture-laden atmosphere, as it is this which most favours the generation and fearfully rapid spread of the cladosporium. There ought to be a warm, dry, and airy feeling constantly noticeable in a Tomato house, and then there would be fewer troubles.

"A. W." states that his plants have had plenty of air, but failed to mention when and how this has been admitted. All through the growing season I never really close the houses, but one or two "notches" of top air are left constantly on, not unfrequently on both sides of span-roofed structures, and on warm nights a chink of front air is also admitted where possible. Not content with this, the fires have not been let out for longer than about ten days, this being during the hottest part of the summer. A little warmth in the pipes serves to keep up the circulation of warm, dry air, which is particularly desirable in the long ranges of houses owned by market growers.

This treatment prevents both the fruit and leaves from becoming cold during clear nights,

and as a consequence there is no condensation of heated air on them between the hours of 6 and 10 in the morning. The coal and coke bill is a serious item in the expenditure in most gardens, and most of us are tempted to curtail as much as we can during warm weather, but, all the same, it is doubtful economy as far as Tomato culture is concerned. Not only does fire-heat, judiciously employed, serve to ward off diseases, but it favours early ripening, and the crops are both heavier and better in quality accordingly. That there are hundreds of Tomato houses in which no fire-heat has been turned on for many weeks or months past and yet no disease has shown itself, I readily admit, but try the same treatment on a larger scale, and the result will be very different.

"A. W.'s" Tomatoes have had plenty of air, but how soon in the morning is this admitted? The mischief is usually done in the morning before the houses are freely ventilated, and again by closing too early or while yet the sun has sufficient power to run up the thermometer several degrees. During the recent very hot weather my houses were freely ventilated before 6 a.m. and never wholly closed, the air being gradually reduced, till at 7 p.m. about 3 inches of top air was left on. Disease there is observable, in spite of all the care, but it is principally found at the highest ends of long ranges of houses constructed on gently sloping ground, or where warm, moisture-laden air collects.

"A. W." asks whether trouble has been brought about by either over-watering or over-feeding, and my reply is that too liberal treatment is apt to promote undue luxuriance, and may be said, therefore, to predispose them to disease. When, however, the plants are heavily laden with fruit, or are furnished with great clusters to a height of 4 feet and upwards, it is scarcely possible to overfeed them, always supposing the roots are not injured by an overdose. More err in the direction of not feeding and watering often enough, starved plants seldom proving profitable. From one-half to three-quarters of an ounce of sulphate of ammonia is quite enough to add to each gallon each time heavily-laden pot plants are watered, and every second time in the case of those planted in borders; but Peruvian guano or the special manures supplied by various vendors are more to be desired. The watering ought as much as possible to be done in the mornings of clear days, in order that the atmosphere may become dry before the evening. There is less moisture to be felt in the atmosphere of houses the borders of which are mulched with strawy manure, and these mulchings are also of the greatest assistance in conserving moisture.

According to my experience of so-called remedies for the cladosporium of a material character, few are worthy of unqualified praise. The mixture of sulphate of copper and newly-slaked lime in solution (known as the Bordeaux mixture) is of very little service; in fact, each time I applied it more harm than good was done. It is the under-side of the leaves that must be reached and dewed over with the liquid, and this also means wetting the upper surfaces, flowers opened and unopened, fruit large and small, and the operator far more than desirable. The same objections apply to dusting the plants thoroughly with the copper and lime in a powdered state. My remedy—not original, let me add—is to concentrate the heat on an affected house, making the pipes uncomfortably hot to the hand and raising the temperature on a bright day, and with a little air on, to 110°, or rather less, for the best part of the day. If this does not kill the disease it

will stop its spread, and one or two more of these hot days will most probably stamp it out. The other alternative is to paint the flow pipes with flowers of sulphur mixed with skimmed milk, and during the next two nights to turn on the heat sufficiently to generate fumes strong enough to make the eyes smart or tingle on entering. In this instance the houses should be closed through the night. Each time I tried this remedy it answered well, the disease, if it did not wholly die out, receiving sufficient check to save the plants and crops, while early applications did not damage the young flowers or buds. Close planting and over-luxuriance greatly favour the spread of fungoid diseases, but the thinning out and trimming ought not to take the form of wholesale removal of old leaves. True, it is these which the disease mostly affects, and it is equally certain they, and not young partially developed leaves, contribute most towards the production of full-sized, heavy-weighting, best-quality fruit. Keep sappy shoots from robbing and smothering the rest of the plants, and if the old leaves are crowded, be content to reduce them one-third, and in extreme cases to one-half their original size. Soft, light-weighting, flavourless fruit is principally contributed to the markets by growers who adopt the reckless practice of wholesale defoliation, and they get foreign fruit prices for their pains.—W. IGULDEN.

Vegetable Marrows.—These, planted on partially exhausted beds early in the season, will now need attention, both in the way of removing all fully-grown Marrows and well soaking the bed with water. That from the farmyard somewhat reduced in strength is best. The first flush of Marrows is now over, and if timely assistance is given and air and light admitted by freely thinning out the least promising growths, a secondary growth will generally follow, which often proves as fruitful as the first, and continues to crop later in the autumn than successive planted lots. Neglect, however, to attend to the plants just at this crisis, and, should the weather continue dry, the probability is that the plants will go from bad to worse, and very few, if any, more fruit be forthcoming.—N. N.

Planting Asparagus in autumn.—Very often gardeners sow Asparagus seed with the intention of forming a new bed as soon as the young plants are ready, but the usual time for the work is allowed to slip past owing to press of other work. In such cases, unless the plants were thinned out the first season to a greater distance than usual, I would advise autumn planting. I have practised it with great success. A noted East Anglian grower who won several first prizes some years ago for Asparagus used to do it, very shallow trenches to hold one row being made. Although the plants were of fair size, they soon took hold and grew freely for the remainder of the season, starting well the following spring. I do not mean to advise autumn planting as a rule, but I believe that in high-lying, dry gardens where drought is liable to be troublesome in spring autumn planting would be an advantage. I have before spoken of the necessity of selecting those seedlings which bear a few large berries in preference to those with many small ones, as the former always produce by far the largest and best Asparagus, and it is quite surprising what a variety both in growth and berry one sometimes finds in a single packet of seed. Of course, when autumn planting is adopted the young plants must be secured safely to neat sticks, or high winds will cause them to sway about and loosen, if not force the root quite out of the ground.—C. H.

Cauliflowers.—It is so long since, at least so far as my knowledge goes, a satisfactory trial of Cauliflowers took place at Chiswick, that it will be desirable to have another shortly. A trial of Broccoli has been suggested, but this vegetable

rarely manages to exist through an ordinary hard winter in those gardens, and thus time, labour, and ground might be wasted. With Cauliflowers the case is diverse. Sowings of, say, a dozen assumed different varieties made in a frame early in March, so as to give strong plants to put out in May, would give excellent results. If practicable, the first early or dwarf section, such as Snowball, &c., might be sown even a month earlier. Mr. Wythes refers to Snowball and Dwarf Erfurt Mammoth as being distinct, though classed as identical at Chiswick in 1894. Early Dwarf Mammoth is perhaps a selection from the Snowball, but I recollect many years ago that the early Snowball, as originally received from Denmark, was a far better stock than was the Early Dwarf Erfurt. I do not know in what respect the variety called Erfurt Mammoth is better than Snowball; certainly it can hardly be earlier or dwarfer, for a true stock of the latter sits on the ground, and will in a remarkably brief time throw hard, compact, pure white heads each 6 inches and 7 inches across, and larger can hardly exceed.—A. D.

Tomato Old Red.—As showing that we have not made so great an advance in raising new sorts of Tomatoes as some people suppose, I may mention that a gardener friend of mine, who has to take charge of ripe Tomatoes during the winter as well as the summer—wrote to me the other day, asking if I could spare him a pinch of seed of the Old Red, as he knew I grew the sort largely. A year or two ago he discarded the sort in favour of another, but he was so disappointed with the new kind, that he wished to return to the old sort, for he could not find a better for winter work or for the open air in summer. I believe other growers' experience is the same as that of my friend. I devote a wall over 300 feet long to outdoor Tomatoes every year, and I cannot find any other sort so profitable as the Old Red. For the past five years I have only grown the Old Red, and at the present time I have plenty of good-shaped fruit, each weighing from 8 ounces to 12 ounces.—J. C. C.

TOMATOES FAILING.

I HAVE read with interest all the articles on Tomato culture in THE GARDEN, but have failed to find what I require. Some of my friends say pinch the leaves off, and others say keep them on, so what am I to do? Several of my Tomatoes are going wrong. A little black spot appears on the Tomato and spreads. I have a greenhouse 14 feet by 10 feet. I put a few in it, but I put the staging clear of the fuse. Will any reader kindly advise me as to a remedy for the above disease in my Tomatoes?—J. E. SHAW.

"Ought the leaves to be cut off the plants and when are those that are put to me with greater frequency than upon any other detail concerned with Tomato culture. My vacation brings me into contact with numerous amateur growers, and in cottage gardens Tomato plants are to be seen here and there also, as it is in that direction where the greatest increase in the number of consumers of the popular fruit-vegetable is most observable. Directly two or three clusters of fruit are formed on the plants some well-disposed, but inexperienced individual advises trimming off the leaves in order that the fruit may have the full benefit of all the sunshine going. As a consequence all but quite the youngest leaves are stripped off, and nothing but these stumps and fruit are left. It is the visitors to the Channel Islands that are so keen on stripping off the leaves, and it is to them that this widespread blunder is to be attributed. They come back with glowing accounts of the crops of Tomatoes there to be seen, and are very positive that much of the success attending their production is due to the practice of early defoliating the plants. It is a pity that cultivators do not bring a little common sense to bear upon the subject. Novices are to be excused in the matter, but not so those men who must be aware that it is only fully-formed, healthy leaves that are capable of elaborating sap, con-

verting it into food for the benefit principally of the fruit, yet it is these too often strip off prematurely. Instead of cutting away the serviceable old leaves, they ought to reserve these and frequently cut away all superfluous young shoots, stopping even the leaders beyond the third or fourth newly-set bunch of fruit. All the strength of the plants will then be concentrated on the fruit, with the result of improving this in weight and quality. According to my experience, and I have conducted various experiments every season, the fruit ceases to make much further progress directly the leaves are stripped off wholesale—at any rate they do not gain in weight, and the bulk is light-weighting and poor in quality.

This practice of early stripping of the leaves is not confined to plants growing in the open air, but is carried out still more extensively under glass. There is no justification for wholesale defoliation in either case, and no excuse can be found for the partial removal of old leaves each with young shoots. Direct sunshine striking full on the fruit doubtless hastens ripening, and in the autumn nothing short of freely reducing the size of the old leaves will obviate this difficulty. As it happens, the most exposed fruit on plants grown in the open is the most liable to be injured by disease, and I have already had to gather some that derived no protection from the leaves in order to finish ripening them under glass—they were cracking badly. There will be no early wholesale defoliation of these plants, but in the autumn a rapid spread of disease will be anticipated by drawing them out of the soil, trimming off the leaves, and hanging them up in a warm, dry house for the best of the fruit to colour. What is not sufficiently advanced to become red enough for the cook to use in soup-making will be utilised principally for making into pickle.

In the case of plants thinly grown under glass I do not recommend the removal of a single healthy old leaf, for the simple reason that the best results attend their retention. When the plants are trained 15 inches apart up a roof, these would be thinly sown. More often than not they are either planted, or the leading growths are trained, less than 12 inches apart, and these I would consider crowded. Already a practice has set in favour of widely planting, growing Tomatoes thickly together often ending in the production of lighter crops than half the number of plants occupying the same space would give. It is, however, in the cross rows of plants grown in unoccupied houses by market gardeners where the most crowding occurs, and where there is usually the greatest necessity for reducing the weight of foliage. If the lower leaves are not reduced to half their original size they either branch each other as well as the fruit, or else disease of a fungoid nature quickly over-runs the whole of them, destroying their usefulness in either case. If, therefore, "J. E. Shaw" has arranged his plants thickly to the extent of smothering each other, about one-half of each leaf may be cut off, one-third being enough if only moderately thick, while if they are quite clear of each other, do not interfere with the leaves on the main stem till they change to a yellow colour. He doubtless quite understands that no young side shoots should be allowed to form on the main stems, so that there are only primary leaves to reckon with, and he will do well to pinch out the points of each leader or plant beyond the last-formed bunch of flower-buds.

Tomato troubles are numerous this season. Most growers have cause to complain of the loss of fruit by disease, or what is attributed to disease. The "little black spot" that most often appears at the points of the fruit is thought to be caused by a fungoid disease known as *Sporocybe lycopericin*, but what I am disposed to consider the effect rather than the cause of the damage. If the cause, why is it we see so little of the disease during either moderately warm or dull, sunless summers? In 1887, 1893, 1895 and 1896 most fruit was spoilt by this form of disease, and this confirms me in the view that the excessive heat

has most to do with it. I have tried coating the fruit with sulphate of copper and lime mixtures, both in a dry and dissolved state, without any appreciable effect on the rate of removal of damaged Tomatoes, and the only remedy I can suggest is freer ventilation. Keeping the houses warm with the aid of fire-heat, leaving a chink of top air to prevent stagnation of atmosphere, and opening the ventilators wider as early as 6 a.m., admitting all the air possible during the hottest part of the day, are the best preventives of this complaint and of other injurious diseases undoubtedly of a fungoid nature. When the nights are cold, Mr. Shaw ought to get his fire warm, this extra heat hastening the ripening of fruit as well as checking the spread of warding off disease. The house ought to feel comfortably warm and dry. There must be no drying off at the roots for some time to come, but the watering and feeding should be done in the morning.—
W. INGOLDEN.

LATE POTATOES.

I HAVE noticed advice tendered to Potato growers that they should get up their late stocks at once before they grow out. That may be in all cases good advice where the tops have withered or are rapidly ripening. In those cases the skins of the tubers have fairly set, and they may be lifted and handled with comparative safety. All the same, it is these very fairily matured tubers with ripening tops that are least likely to grow out or supertuberize. All those breadths that are still full of vigour and growth—the tops being quite green, if not luxuriant—are either in top or in tuber far from being ripe, and it is very doubtful whether lifting the tubers now whilst so immature and the skins so thin and tender, to escape growing out, would not be the worse of the two evils. It must be remembered that, provided the disease spares the tops, tubers have fully six weeks longer in which to grow, and just now, too, is the very time when they are developing starch—that is, changing from their soft or watery nature to that of a floury or starchy substance, and whilst immediate lifting would result in getting tubers hardly eatable, several weeks more of growth would ensure the having of these tubers, even if a little larger, at least far more fitted for food. But, even apart from this matter, there can be no question that the longer Potatoes can remain in the ground to mature, the better will they keep. Potatoes are not at all likely to suffer one-half so much from supertuberization this season as last year, as the rains which so far have fallen have been very moderate and have not penetrated far. By the end of July last year we had much more rain (because the storms were heavy) than has fallen up to the present moment. The late Potatoes were then much less advanced than they are now. If there be no growing out this year the tuber crop may be less than that of last year, but that can hardly be to the market growers of late varieties a misfortune, as last spring hundreds of tons held over to obtain a better price were either sold at £1 per ton or had to be given away.

Late Potatoes, let the crop be ever so good, can hardly be grown at a profit if sold for less than £2 per ton. The case seems not to be at all one created by foreign competition, but by excessive production at home. It was my experience last year, obtained in connection with several diverse trials, that good forms of round Potatoes did not supertuberize at all. The worst development was found in the long late kidneyes, especially those of the Magnum Bonum type. That, however, may be but the idiosyncrasy of the year, because, as all growers know, various seasons produce very diverse results.

The worst characteristic of the kidney section referred to is that supertuberation with them is found in an elongation of the tuber, so that one part is firm or ripe and the other part soft or immature. It was very probably that fact which to some extent led to the exceedingly low demand for late Potatoes in the spring. When round Potatoes grow out they usually push smaller ones from eyes, but without materially affecting the texture of the older tubers. Reverting to the present position, I prefer to leave all late and yet strong-growing varieties alone for a few weeks longer, as the tubers will be much firmer by that time both in flesh and skin. For travelling or much handling, everyone knows that tender skins are very objectionable, whilst hard skins save the tubers from much harm.

A. D.

Vitality of Parsley seed.—A friend of mine, who is also an old vegetable grower, informed me recently that he had Parsley seed fourteen years old and found it quite good. It is true the strain was a special one of his own and had been selected and saved with great care, which might in part account for its long-continued vitality. It is strange that there should be such a wide difference in seed in this respect, as that of some vegetables is worthless if two years old.—J. C.

Tomato Chemin.—I herewith send you a ripe cluster of this at present little known, but most excellent Tomato. I sent a note some time ago on its merits as an indoor variety, but the fruit sent is from plants growing on a south wall between the Peach trees. With the ripe cluster I send also three green ones in different stages of development, so that you may see its continuous bearing character. One of its chief recommendations is, in my opinion, its size. Below the average in this respect, it is most useful for sending to table for eating in a roast state. Moreover, being such a good cropper the aggregate weight of fruit from each plant equals that of most of the larger fruited varieties which carry a less number.—J. CRAWFORD.

Tomatoes in pots.—On visiting the nursery of Mr. J. F. Thoday, Willington, Cambs, I was surprised to see a large house, 300 feet long, filled with Tomatoes in pots, carrying a splendid crop of fruit. Mr. Grant, the manager, told me that owing to the soil being unsuitable he had failed when he planted out, and had therefore resorted to pots. We believe they were chiefly 12-inch pots. The plants grew with 8 foot to 10 feet high, and although a good many of the fruits had been gathered, they were still carrying a good crop. There were several sorts in the house. It is generally understood that when Tomato plants are potted out they do not do well in the same house after the first two or three years unless the whole of the soil is removed and replaced with fresh. This of course is a very expensive operation, and if Tomatoes can be grown so successfully in pots, a great deal of labour and expense might be saved.—A. C.

Rolling Onion ground.—Where the soil is of a light or medium character, rolling Onion plots, although incurring a little extra labour, is good practice, as the best bulbs are produced from a firm surface, and this can better be secured by rolling than by the ordinary method of treading. Treading, however, must precede the use of the roller, using the rake to secure a level surface. The plot should then be rolled lengthways and crossways, and in the case of very light soils twice over. The drilla should then be drawn and the seed sown, after which the roller should again be brought into action. In dry times rolling the surface has the effect of preserving what moisture there is in the ground. On clayey or very retentive soils the roller should not be used, as the surface is apt to become baked and afterwards cracked, which is an evil. I once saw the roller used on an Onion plot having a very considerable slope, the soil consisting of a clayey loam. Two evils followed

—first, wholesale cracking, and secondly, the running in a complete stream from top to bottom of all the rain water which afterwards came. I well remember when under a gardener who always grew a bed each of Nuncham Park, James' Keeping and Strasburg on the broadcast principle, which I believe is still the best for securing well-shaped, thoroughly ripened bulbs, that if an Onion sprang up in the hard trodden alley which separated the beds and was allowed to remain, it invariably grew to a larger size than those in the beds and always had a good neck, thus proving the advantage of a solid surface. I have quite as strong a liking for firmness for Strawberries as for Onions, and I have never grown larger or better fruit than when I sowed my spring Onions in rows 2½ feet apart and planted my young Strawberry plants between at the end of July or beginning of August. The repeated trampling of the ground to attend to the Onions rendered it very firm and also hindered undue evaporation.—J. CRAWFORD.

Cottagers exhibiting vegetables.—There is room for much improvement in the manner in which cottagers, as a rule, stage their produce at local exhibitions. In some few districts, and where a society has been in existence for a good many years, the above-named class seems to have taken a leaf out of the professional gardener's book, their collections, instead of being huddled together on an ordinary-sized tea-tray or on the table, being neatly arranged on a green wooden tray sufficiently large to admit of fair space between each variety, a garnishing of Parsley giving the whole a neat and finished appearance. A cottager who takes these pains stands a far greater chance of winning a first prize than his slovenly opponent. Of course, all single exhibits cannot be garnished with Parsley, but in the case of Potatoes, Tomatoes, and a few other things, which may be laid regularly on a cushion of Moss or some soft material, the intervening spaces being filled in with Parsley, a great deal improvement is effected. I think that by a little ingenuity on the part of the committees of country shows that rough-and-ready mode of staging might be done away with. If a special prize were offered for the best collection of vegetables in which neatness of arrangement was to form a special feature, an all-round improvement would soon be visible.—C. H.

Feeding Seakale.—At this season after a long drought the plants are more vigorous than usual. The value of liquid manure or other foods given for the next two or three weeks will be great, as the plants are now forming their crown upon which depends next season's crop. As with rains the plants will make a fair lost time. There should be no delay in giving food, as the plants are now in an active state to absorb the same. It is not too late to reduce the crowns where they are at all numerous, so as to throw all the vigour into those left for forcing. This will promote early ripening, and in a measure prepare the roots for early forcing. In case liquid manure is not obtainable, the best substitute I have used is fish manure, and, failing the latter, good guano. Whatever food is given, it is essential that it be well washed down to the roots.—G. W.

Watering and feeding Celery.—Few plants are so slender as Celery from want of moisture, and as we frequently get dry or drizzling time after protracted droughts, it may be thought sufficient for the plants. Such, however, is not the case, as it is surprising what a heavy rainfall is required before the roots get any moisture. Now is a good time to thoroughly saturate the roots. I notice the growth of early Celery is sturdier this season than usual, and will well repay feeding in addition to copious supplies of moisture. There is no better time to feed than now, as the plants have now mostly absorbed the food in the trenches, and food in the way of liquid manure or fish manure is well applied previous to the watering. Salt and soot are excellent fertilisers and greatly improve the flavour of the Celery. These given now will build up strong plants. With liberal supplies of moisture there will be less fear of running or hollow stalks.—G. W. S.

CONDOVER HALL.

The village of Condover is about 5 miles from Shrewsbury, its name being recorded in the Domesday Book, whilst the hall is a fine example of Elizabethan architecture. It was built by Thomas Owen, a native of Condover and a distinguished lawyer of that period. He was Queen's Sergeant in 1593, and a Justice of the Common Pleas from 1594 till his death in 1598. A fine monument to his memory may be seen in Westminster Abbey where he was buried. It is built of the local red sandstone, and is now the seat of Mr. R. H. Cholmondeley. Carved in

sected by the winding Cound, and beyond its wooded confines rises prominently the long undulating line of the Longmynd Hills. On the west side there is considerable flower gardening on geometric lines with high Box edgings and spiral Junipers. At the time of our visit it was gay with the best of the usual summer bedding plants in profuse bloom. A dozen Irish Yews, though kept rather severely conical, are a fine feature, in this garden, and the effect on the whole is pleasing. At the end of the garden is a walk skirting the lawn, margined with beds, in which were noted good Roses, also Zinnias and Stocks

of our visit were the *Cactus Dahlias*. The fault of many of these is that the flowers are hidden among the leaves, but those that we saw here had been selected more or less free from this defect, those noted being Matchless, dark crimson; Viscountess Folkestone, salmon-yellow; Purple Prince; Lancelot, salmon-red; Amphion, buff-yellow; Saint Catherine, of a similar shade; Baron Schroeder, light purple; and Beauty of Arundel, rosy buff. Two borders of hardy flowers—the entire length of the vegetable garden—were perfectly edged with the old white Pink. Fruit both on the walls and on trees in the open vegetable quarters was abundant and fine. Under glass the same good culture was apparent everywhere.

SURFACE CATERPILLARS.

The attacks of these caterpillars, according to a leaflet just issued by the Board of Agriculture, have been unusually noticeable this season (1896), as the growth of many of the plants on which they feed was checked by the drought. Swedes and Turnips, for instance, were very backward and a thin plant generally, so that the action of these caterpillars upon them, which would probably not have been of great consequence in ordinary seasons, has been marked and disastrous in many cases. Mangolds again were seriously affected, being as a rule a weak and sickly plant, and, by reason of the loss of moisture, unable to grow away from the caterpillars. Good-sized Mangold bulbs examined in the middle of July were found to be completely scooped out, and their contents eaten by the caterpillars of the heart and dart moth (*Agrotis exclamationis*), which appeared to be more plentiful than those of the Turnip moth (*Agrotis segetum*). These caterpillars cause serious injury to many crops of the farm, market garden, and garden, and particularly to Mangolds and Turnips. They, in common with caterpillars of different species, are styled "surface caterpillars," because they hide just beneath the surface of the soil and attack plants of most kinds just at, or just below, the surface, and always in the night-time. They correspond with the "cutworms" in the United States, so-called because they cut the stems of plants asunder. Some of these American cut-worms belong to this same family of *Agrotis*. Young Mangold plants, and Mangold plants whose growth is retarded by drought, are frequently cut through by these caterpillars just below the surface of the earth, and Potatoes are attacked, particularly where earthing has not been well done. Turnips and Swedes are often spoilt by these caterpillars, which completely clear out the insides of the bulbs, or so injure them that they become rotten. Lettuces, Carrots and

Beetroot are also frequently attacked by the caterpillars of the garden swift moth (*Hepialus lupulinus*), but those of the *Agrotis* are far more destructive to them. Wheat and other corn plants seriously suffer from *Agrotis* caterpillars, especially wheat in mild winters. This injury is often attributed to wireworms. Grasses in pastures, particularly those with thick bulbous stems, are often eaten by these caterpillars, which do more injury to grass land than is generally imagined. There is no doubt that mild winters, without any frost, tend in some considerable degree to account for unusual numbers of surface caterpillars, as they pass the winter in the ground in the caterpillar



Condover Hall. From a photograph sent by Mr. G. Fowler-Jones, Quarrybank, Malton, Yorks.

stone over one of the doors is this inscription: "Those who enter by this gate cannot come too early and never stay too late." The hall, standing back a little distance from the public road, is reached by a straight road with lawns on either side, adorned by a few isolated specimens of evergreen trees; this is the north side of the house. On the south side are some simple grass terraces, offering a most inviting situation for a good flower garden, but here are only a few isolated conical clipped Yews. Beyond, however, the view is extensive and picturesque, with a park of several hundred acres inter-

feringly grown, whilst a good Yew hedge bounds this part of the garden, and in admirable contrast with it are pretty pyramidal golden Yews. Upon the lawn near by we noted two very fine Elms, one with wide-spreading branches sweeping the turf. The village church, too, is close by and easily accessible from the lawn.

The fruit and vegetable garden is admirably planted, and, like many more such gardens, appeals to lovers of flowers from the variety and richness of its occupants coming and going in their season. Here are grown many flowers for cutting, and prominent at the time

state, and might be affected by frost, or at least by frequently alternating frost and thaw. Mild dry springs are favourable for pupation, egg laying, and for the caterpillars while small, and dry weather later on prevents the caterpillar disease, which is always more prevalent in rainy seasons.

LIFE HISTORY.

The female moth of *Agrotis segetum* is rather larger than the male, its wings are much darker, being black-brown, while the wings of the male are greyish brown. The antennae of the male are much pectinated, while those of the female are simple. In size, *Agrotis segetum* differs little from *Agrotis exclamans*. In *Agrotis exclamans* the female is reddish brown, with the forewings darker than the hind wings. The colour of the male is paler brown and its antennae are slightly pectinated, the antennae of the female being plain. The wing expanse is about 1½ inches, and the length of the body is about three-quarters of an inch. The habits are the same in both species. Eggs like Poppy seeds are laid at the beginning of the summer, and fastened near the ground to the leaves of cultivated plants, and of *Plantains*, *Goosefoot*, *Chickweed*, and many cruciferous weeds. Caterpillars come from these in ten to twelve days, and begin to feed at once. When quite full-grown the caterpillars are nearly 1½ inches long. One species can be distinguished from the other only by careful inspection. The *Agrotis exclamans* caterpillars are darker than those of *Agrotis segetum*, being decidedly brownish, while the others are grey. The most important distinction, as pointed out in Buckler's "British Moths," is that in *Agrotis exclamans* the quite black spiracles are always larger than the spots before and behind them, and that upon each of, at least, the first five segments there is a pear-shaped blotch rather darker than the body colour. These caterpillars feed from their first appearance in summer to the spring of the next year, though probably a few of them, as stated by Mr. Barrett in his "Lepidoptera of the British Isles," "appear to feed up rapidly by the middle of August, producing moths the same autumn, and reinforcing the great army of winter larvae." During severe frosts they retreat to cover the earth. In the spring the caterpillars change into reddish-brown pupae, in earthen chambers, in which state they remain for about twenty-eight days.

METHODS OF PREVENTION AND REMEDIES.

To prevent a recurrence of the attack it is desirable to lime infested fields with ordinary lime, or gas-lime, and to plough deeply. Turnips and Swedes that are infested should be fed off early by sheep. Land after Mangolds, where there has been infestation, should be limed, ploughed deeply, and not cropped again till the spring, if possible, and ploughed again before it is sown. It would be dangerous to sow wheat at once after a badly infested crop of Turnips, Swedes, or Mangolds. Weeds must be kept down in fields and gardens, especially cruciferous weeds, as Charlock, which afford shelter for eggs and food for the young caterpillars. The frequent sowing, with hives and hand hoes, of growing crops in drills, as Turnips, Swedes, and Mangolds, disturbs the caterpillars and kills some of them. Drawing drags and harrows over young Swedes, Turnips, and Mangolds when possible is also of considerable advantage. Fresh, pure, finely powdered soot scattered on both sides of infested plants and lightly chopped in has proved to be of considerable benefit. It keeps the caterpillars off, at all events for a time, and gives the plants a chance to grow away, at least in ordinary seasons. In seasons of extreme drought this application should be repeated. Lime mixed with soot in the proportion of 3 or 4 bushels of very finely triturated lime to 1 bushel of well powdered soot forms a pungent compound found to be very useful in similar caterpillar attacks, and should be sprinkled close to infested plants. A little sulphur mixed with this composition, at the rate of 1 lb. to a bushel of soot, adds to its offensiveness,

Kainit, put on in a similar manner, near to infested plants, has a marked effect upon the caterpillars. It is desirable to force the plants on with dressings of artificial manures, as guano for Turnips, and nitrate of soda, in small repeated doses, for Mangolds. Potatoes should be well "earthered" where there is any fear of infestation, and the earthing done early in the season. In market gardens and gardens, and in the case of valuable crops, as Cabbages, Lettuces, Celery, Radishes, Carrots, and herbs, hand-picking is advocated. The caterpillars are generally near the plants just under the surface of the earth, which should be moved with a sharpened stick or a small hoe and the caterpillar picked out. This is, of course, an expensive process, but it might pay to adopt it in some cases. In America baits of Clover, Lettuce, &c., sprinkled with Paris green are placed near infested crops to attract and poison the caterpillars. Birds, as partridges, rooks, gulls, starlings, and plovers, are devourers of these caterpillars, and should be encouraged. Hoeing and dragging infested Turnip fields give the birds exceptional chances to get at these night-moving insects. Moles also eat them, and should be protected, as they do much good and but little real harm.

ORCHARD AND FRUIT GARDEN.

NOTES ON APRICOTS.

We learn from Mr. Wythes' recent remarks on this indispensable fruit that the crop at Syon, as in most other gardens, has this year been satisfactory. Mr. Wythes finds that a dry, warm summer suits the Apricot, always provided, as he says, that sufficient root moisture is forthcoming, artificial waterings, not only when the crop is swelling and ripening, but also after the fruit is gathered, being imperative if stout, well-developed fruit buds are to be secured and dying off of branches prevented, for my opinion is that this too common disorder in Apricots is brought about by more causes than one, equally as much as is shanking in Grapes, and that insufficiency of root moisture from the time the fruit ripens till the foliage changes colour and falls will produce it, the effect being seen next season as soon as growth commences. If mulches which were applied early in summer have, by repeated waterings, become exhausted and partly dispersed, they should now be renewed, as this is half the battle, evaporation being very rapid in close proximity to hot south and west walls. While willing to admit that branch-withering and even the complete collapse of many Apricot trees are due to unripened wood through an insufficiency of sunshine, this, I think, having been proved by the fact that previous to our seasons taking a turn Apricot trees did well enough in every county in England, the liability to decay might be greatly lessened if a more thorough system of disbudding and thinning of the young wood were adopted. With many gardeners who take care that attention in this matter is not for a moment lacking in connection with their Peach trees on open walls, the disbudding of Apricots is entirely ignored, the trees being permitted to retain all their young growth, this resulting in a thicket of foliage which the sun of an ordinary summer cannot penetrate, matters being made worse where the roots are in a strong soil. The soil at Syon is, I believe, a sandy nature, and my experience is that such really suits Apricots better than a strong loam. Some trees were planted in a garden near here a few years since, the soil used for making the border being of considerable strength and somewhat retentive. They grew

rapidly for a year or two and looked the very picture of health, but are now, I am sorry to say, showing signs of decay, several large branches having already gone, while the trees in this garden have during the same period improved, the soil being sandy and well drained. I recently had a very striking proof of the need for supplying moisture to the roots of Apricot trees during summer. Some trees near here were bearing a heavy crop of fruit and had been left to take care of themselves. An extra dry, arid interval occurred, during which the foliage drooped and looked quite blue. Eventually a heavy thunderstorm came to their relief, when the leaves quickly resumed their natural stiffness and colour, clearly proving where the mischief lay. Watering should never be done very late in the season, or say end of September, which is likely to be the case where work is pressing and labour scarce. Very late watering has a tendency to promote an untimely growth, and lay the tree open to a severe check when frost comes. As to

VARIETIES,

there can, I think, be no doubt that the popular and highly flavoured Moorpark is more prone to injury and decay from inclement seasons than other sorts; indeed, I have not planted a Moorpark for some years, and I know other gardeners who have given it up, planting Heusinkveld, one of the best all-round varieties in cultivation, in its stead. So far as my experience of this Apricot goes, which in this garden alone extends to thirteen years, it is very hardy, and the least liable to branch-withering of any. The fruit ripens fairly early in the season, although not so soon as the Large Early, another hardy and valuable kind with melting flesh and most distinct flavour. Oullin's Early Peach is true to name, and is probably the most reliable sort to plant for fruit for dessert, and this may be duplicated by Breda, a medium-sized fruited variety, also ripening early, and although lacking first-class dessert quality is most useful for tarts and stewing. Breda in favourable districts succeeds in the open as a standard. Shipton or Blenheim, which belongs to the early season kinds, has been extensively planted of late, its character being that of a good all-round Apricot which seldom gums, even where the soil is not so warm and porous as desirable.

J. CRAWFORD.

Coddington Hall, Newark.

Plum Early Violet.—In this district there is a small cooking blue Plum much grown for market called Early Violet. Its size is between that of a Damson and the well-known Early Rivers. It ripens about a week before that variety and sells well, there being so few other Plums, even Victorias, in the market at that time. It carries a heavy bloom and is of fair flavour, though somewhat tart. The tree is a heavy bearer in nine seasons out of ten, thus showing that the bloom is hardy. I have looked in vain through several fruit catalogues for its name, but it is no doubt grown by nurserymen in this country, the fruit being in great demand for jam making. Perhaps some reader of THE GARDEN knows the Plum by this name.—J. C. Notts.

Watering inside Vine borders.—How often is the mistake of watering inside Vine borders in the after part of the day made, the house being nearly or entirely closed at eventide, with the result that wholesale cracking and destruction of the berries follow. This of course refers to houses containing Grapes in a ripening condition, some varieties, such as Foster's Seedling, Madresfield Court, and Buckland Sweetwater, resenting this treatment sooner than others. Independent of cracking, the bloom is by such treatment com-

pletely spoilt, the bunches presenting a sorry appearance. The wood, moreover, does not get the chance of gradually ripening. The best way is to wait for a light, settled day—if rather windy, so much the better—and to water as soon after breakfast as possible, full air being admitted; the superfluous moisture has then an opportunity of escaping before evening, and with a gradual withdrawal of air, leaving a good chink on both the top and bottom ventilators, a cool atmosphere is kept up, and both cracking and bloom-disfigurement avoided. While on the subject of watering I would like to add that watering borders of early vineeries after the crop is cut is very often neglected, to the detriment of the Vines. Right up to the time that the leaves turn yellow previous

were I to postpone mulching until late in the spring, I should in the majority of seasons have a very poor yield of Strawberries. Often during February we get dry parching winds which literally draw every bit of moisture out of the earth, distressing our young things like Strawberries and laying the foundation of a complete shrivel as soon as new foliage becomes abundant should a minimum quantity of rain only fall. What gardeners err in applying a heavy mulch of wet close manure, which I admit in the event of severe frost does more harm than good, forming little better than a sheet of ice. What is needed is a fair covering of short littery material well saturated with the urine, which latter is quickly washed down into the ground to

sorts, which make runners slowly. I bought in a few of the last named for planting out, but as I discovered spider on them and also found them only moderately rooted, I stood them behind a wall giving the foliage a good spraying with sulphur water. I have done the same with other sorts layered at home, finding that thus treated they made more headway, and are ready for planting sooner than when left on the plant till sufficiently rooted.—J. C.

MUSA CAVENDISHI.

THERE are perhaps many and various reasons for the somewhat rare occurrence of the fruiting of Musas, some of which are doubtless the amount of space required under glass for their accommodation, and the great heat that must be accorded them if the fruiting is to be in any way successful. To these and other reasons is due the fact that fruiting examples are usually only seen in very large gardens and where ample space is at command for their accommodation. It can scarcely be said of these (as of some tropical, heat-loving subjects that they are difficult to grow, for, on the contrary, they are among the easiest, provided the two great essentials (heat and moisture) are at command. Indeed, these are their chief requirements, particularly so during their season of growth, for, as a matter of fact, much of the success which is achieved in the culture of these noble habited subjects is really due to sustaining a high temperature from the moment the sucker is planted till its gigantic inflorescence has issued from the summit of its trunk-like stem and the fruits developed to their full size. To successfully accomplish this, it is much best to plant strong suckers into their permanent positions quite early in the year, say by the beginning of March. When this is done, the plants have before them a full season of growth, the requisite heat is maintained also at less cost, and what is perhaps more important still to those who engage in their cultivation is that the fruits set with greater certainty in the autumn ensuing. Later planted suckers, on the other hand, would run the risk of the truss of bloom becoming blind in winter through insufficient sunlight and sun-heat, which are all-important to the fullest development of the plant. These drawbacks, together with much reduced temperatures in winter, the fully-developed fruits are capable of enduring with impunity.

The example in the illustration herewith is one of eight plants grown by Mr. Charles Last, gardener to Mr. H. O'Hagan, River Home, Hampton Court. The plants occupy the side beds of a house specially designed for the growth of Musas, this being a compact lofty structure with plate glass sides. Only very few other plants occupy the house, and these from a furnishing point of view rather than cultural, since it has been found that the great shade of the Banana is too much for most things. The plants were put out March 15, 1895, and formed association to a previous lot that was irretrievably ruined by the great Thames flood of November, 1894, with nearly 4 feet of water in the house. The first fruits were gathered March 12, 1896, three days under a year from planting; the fruits, however, could have been ready much earlier, but were purposely retarded. The plant represented in the illustration was selected by the photographer on account of its position, and at the time of photographing had upwards of 230 splendid fruits all fully developed. This was no exception, as the remaining seven plants each perfect upwards of 200 of the finest fruits, the largest of all, a colossal bunch, showing something like 250 splendid fruits.



Musa Cavendishi in fruit at River Home, Hampton Court. From a photograph sent by Mr. E. H. Jenkins.

to falling, Vines are capable of assimilating food, and if on account of fire-heat being withheld water is also withheld from the time the Grapes are ripe till they are cut to avoid rotting, it should again literally be supplied in all well-drained soil where the vine can the last bunch is removed from the house.—J. C.

Manuring Strawberry beds.—Mr. J. C. Clarke's remarks on manuring, by which I take it he means mulching, Strawberry beds is interesting. My experience is that those gardeners who have a light soil, resting on a gravelly subsoil run a great risk of losing the crop if they neglect to mulch in autumn, or at any rate during December or January at the latest. I have a rather light soil to deal with, and I can confidently say that

feeds the roots the next season, while the litter, having become dry and therefore warm, remains to keep the fruit clean without any addition. Two beds are thus killed with one stone. Even under this treatment I sometimes find a difficulty in preserving the rows of those sorts which have the Queen blood in them, but have little to complain of and generally get good crops.—J. C.

Strawberry Monarch.—I planted some of this new variety this season, and am much impressed by the dwarf, sturdy habit of growth, even on quite young plants. No trace of spider is visible, and I am hoping it will prove to be a good Strawberry for light, warm soils and hot, dry seasons. Latest of All is more subject to spider, as, indeed, are the majority of the later

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The method of culture adopted by Mr. Last is by no means elaborate, the soil being composed of turf edgings and short manure. Altogether the beds are 2 feet deep and about 5 feet wide, drainage to the extent of 9 inches being given. Each plant is entirely separate from the rest, being divided by an inch slate slab. Planted in these divisions the plants are separately at command, and a much longer succession of fruit thereby ensured, a new sucker being planted as soon as the fruiting example has finished. The fruiting plants this year, however, were more or less together by reason of the flood previously noted. The suckers were of about the same size and planted at one time, and when in fruit were certainly a noble lot of plants. The actual soil space for each plant is 3 feet 10 inches by 5 feet 2 inches. From the first, copious supplies of water are given at the root, and with active growth, liquid sewage freely. No artificial manure of any kind is employed, nor do the plants appear to stand in need of it. Heat and a continuously humid atmosphere are the chief items, and these are given without stint. Bottom-heat is afforded by pipes beneath the beds and from open gratings, and around the walls a plentiful supply of top-heat is secured. It is worthy of note, however, that the heat in winter frequently fell to 55°, a temperature apparently ample when the fruits are fully grown. The batch of plants fruiting in the early part of this year has long since been cleared away and a new set of plants is rapidly developing; indeed, the largest of these at the base had on August 3, 1896, a circumference of 30 inches.

E. J.

PEACH LEAVES TURNING YELLOW.

I HAVE here a very old garden, soil chalk. The leaves of some of the Peach trees turn quite yellow and some of the other fruit tree leaves do the same. What is the cause of this and what the remedy?—D. R. S.

* * * This query ought to have been accompanied by a sample of yellow leaves. It may be a case of "yellow," a disease usually brought about by faulty culture, more especially in the direction of taking no measures to prevent undue deep root action, or it may be that the trees are badly infested by red spider. If it is the yellow, the leaves at the points of the young branches never become green, but are yellow from the first. Should it be only red spider, the case is not so serious. When the roots are driven by faulty surface culture into the lowest part of a deep border many of them finding their way into an unkindly subsoil—they are out of the reach of all the influences that tend to promote healthy progress. These deep-running roots form few or no fibres, and fail to absorb and transmit to the leaves food that can be assimilated and turned to good account. As a consequence of this want—more particularly of mineral food—there is a marked absence of chlorophyll in the leaves and the trees are neither agreeable to look upon nor serviceable. Some authorities consider it follows a disease more or less latent, but, to this as it may, I never came across an instance where wholly lifting and replanting in a fresh border did not completely restore them to a healthy state. In my reply to "W. T. C." concerning the cause of premature fruit dropping I dwelt at some length upon the remedy for this, and will here add that frequent lifting of the roots and relaying them in fresh compost of a loamy nature are also the best preventives of yellow. Very bad cases of it may be met by carefully and completely lifting the trees, pruning the roots and relaying them in fresh compost much nearer to the surface than heretofore. Moderately bad cases can be obviated by lifting the roots on one side of the tree, relaying in fresh compost this year, treating the other half similarly next year. Once the roots can be got

into and kept in a thoroughly active state near the surface there will be little or nothing of the yellow observable. Gardeners are apt to form too deep borders. A depth of 2 feet of good soil is ample. I am content with 18 inches and no artificial drainage, the subsoil being naturally well drained, but then the trees are kept well supplied with moisture and liquid food at the roots, a mulching of strawy manure also doing good service.

Red spider was never more plentiful than it is this season. Large quantities survived from last year when red spider was also abundant, and the hot dry weather of May and June favoured a rapid and early increase. Only those trees in the best of health, thanks to root treatment, and which were also trained well clear of the glass on the roofs of houses, could be kept free of red spider, and these are the exception. Heavily cropped trees staved at the roots could not be kept free of red spider by means of the syringe and clean water, while if insecticides were not strong enough to kill red spider, these would also damage, probably spoil, the tender skinned fruit. I find flowers of Sulphur an admirable remedy for red spider on Peaches, Nectarines or any other fruit tree, but it cannot be applied to any, the fruit of which is rough or hairy skinned—Peaches, for instance—as it cannot be rinsed off them again. After the fruit is gathered, either lightly dew the trees over with the syringe, and then with a bellows distributor or ordinary tobacco distributor well coat the leaves with sulphur, or else squeeze a large handful of the sulphur through muslin or canvas bag into a 3-gallon can of water, syringing the trees with this. If a first spraying does not leave sufficient sulphur on the leaves to lightly coat it, repeat the dose. Once the sulphur has been applied, nothing more should be done in the way of spraying, and the red spider will either starve or drop off—any way it disappears. An examination of the leaves through an ordinary lens or even with the naked eye ought to be sufficient to lead to the discovery of this minute insect, that is if it is the cause of the leaves on "D. R. S.'s" trees turning yellow, but experienced gardeners can tell at a glance if red spider is abundant.—W. I.

PEACHES AND NECTARINES FAILING.

WHY do Nectarines in a large house with Peaches shrivel up and fog off? They have done so for the last two years. In former years the trees bore well. The Peaches also are not so fine as formerly nor the crops so heavy, but they do fairly well.—W. T. C.

* * * Treatment that answers well in one instance may prove radically wrong in another, and failing to realise this fact has led to many failures. Much depends upon the nature and depth of the borders. When Peaches and Nectarines are first planted in a new border largely composed of fibrous loam, with perhaps manure of some kind added, they are apt to grow strongly too rankly in some cases, for a few years, and after they have once got into a free bearing state the crops are perfectly satisfactory for a short time. Then comes a reaction, and whether they shall be kept in a profitable state much longer depends upon the treatment given. It ought to be remembered that the older and poorer a border becomes the more water and liquid food will be needed, or otherwise the trees will be incapable of supporting the heavy crops we are prone to leave on them. Enfeebled trees require very careful handling, that is to say, they are not capable of making good progress under adverse circumstances. There must be no delay in thinning out the shoots or in stopping those reserved by way of foster-nurses for the fruit, and in particular no neglecting to thin out the crops early. Too often little or no thinning out of the fruit is done till they are bigger than Morello Cherries, and what is still more to be condemned, many growers defer the final thinning till after the stoning takes place. They anticipate premature dropping by leaving abundance on the trees;

whereas free thinning is the best preventive, the opposite alternative being more likely to cause wholesale dropping. It is during the stoning period when the tax on the tree's energies is most felt. Judicious thinning relieves the strain and not unfrequently saves the crop. Those who are observant will agree with me that it is the trees in failing health that invariably attempt to crop the oftener and heaviest. It may be that the trees owned by "W. T. C." are in failing health, and being allowed to attempt far more than they are capable of carrying out satisfactorily, wholesale dropping of fruit is the result.

Most probably something more than early and judicious thinning out of growths and fruit or merely preventing waste of energy is needed in the case under notice. Some soils quickly wear out. Frequent changes of soil are made by the most successful growers, and although I do not go to the length of advocating wholly re-forming the borders annually, am yet of opinion that a change of soil every second or third year is none too often. At Wilton House, Salisbury, where Peaches and Nectarines are grown remarkably well both under glass and in the open, every second year sees a complete change of soil. One half of the border on the north side of each border is renewed every second year, that on the opposite side receiving similar attention in the alternate year, so that in reality the trees get the benefit of a certain amount of fresh soil every season. The question may be asked, Do the trees pay for so much trouble? I reply, yes. Not, after all, is this renewal of soil such a very laborious or expensive undertaking. What is wanted is a heap of fresh compost consisting, say, of loam, not necessarily fibrous loam, and good garden soil in equal parts, with "burn-bake" (the residue from a slow fire or garden "smother"), old lime rubbish, and bone-meal added moderately freely. Even the bone meal may be dispensed with, but if the soil is poor and the trees have hitherto been starved, nearly fresh horse droppings at the rate of one part to four parts of soil should be used. Open a deep trench from 4 feet to 5 feet away from the stem half round the tree, and from this gradually undermine with forks till it is possible to get at the deep running roots immediately under the stem. These should be searched out and freely shortened. All other roots found should be carefully saved and pruned, cutting out all broken pieces, and making clean cuts where broken ends were, before which they must be thinly and evenly relaid in fresh soil, taking the precaution to keep the soil the same texture as they were before. If the soil is at all dry, give good watering, and where exposed, mulch with strawy manure. When the whole of the border is treated in this way in one season there is a possibility of the trees receiving too severe a check, but if only one half is done at a time, the undisturbed roots are capable of sustaining the trees in good health and vigour till those lifted and pruned are beginning to be most active. It is yet full early to commence such drastic measures with outside trees as well as with the latest of those under glass, but the start should be made soon after the wood is well matured and the fruit buds plumped up, this being long before the leaves change colour prior to falling. It is in the autumn when the roots display the greatest activity, and it is then when the renovating measures should be commenced in order that many root-fibres may have a chance of forming before the resting period arrives.

Newly-moved soil is naturally more retentive of moisture than any that has not been disturbed for several years, and those who frequently renew their borders are not under the necessity of watering so often as are those who seldom disturb the soil about the roots of their trees. Growers there are who are very timid about breaking up even the surface of their borders, but although a firm root-run is desirable as a preventive of gross productive top growth, I never hesitate about lightly loosening the surface with a fork occasionally in order that every drop of water or liquid manure applied may soak into and be retained by

the soil. Surface loosening must not be confounded with digging. There ought to be no digging with spades and no cropping about the borders of fruit trees—at any rate, not nearer than 4 feet from the stems. It is this bad practice of cultivating and cropping nearly up to the stems, and not surface loosening, that drives the roots down injuriously deep. The latter, coupled with a good spring mulch of strawy manure, tends to keep the roots active where they can do the best service, viz., within a few inches of the surface. The least that can be done to heavily cropping trees that have been rooting in the same soil for several years past is to turn the surface of the border and give good soakings of liquid manure this autumn or immediately after the crops are gathered, repeating the dose before they restart growth, and occasionally afterwards. There should be no fixed dates for either watering or manuring overworked fruit trees. If asked to say how often the trees in any kind of border should be watered, my reply would be, as often as the borders are found approaching dryness. Some soils are far more retentive of moisture than others, and the depth of border, quantity of active leaves and roots, and the weather experienced ought all to be taken into consideration.—W. IGGULDEN.

Pear Citron des Carmes.—I quite agree with "J. C. C."s" note concerning this Pear on page 54 of THE GARDEN, for I started gathering it on July 27, and most of the fruits were discoloured in the centre when they were gathered, and most of the others have gone since. I gathered Doyenné d'Eté on July 23, and I still have a quantity of it. Although smaller than Citron des Carmes, Doyenné d'Eté is far superior in quality. With a season like the present, given a good watering and mulching, this variety will grow in favour, for coming in as it does it is very welcome when the Strawberries are getting over. I would advise that a tree of Doyenné d'Eté be planted in gardens where early Pears are wanted for dessert.—G. H.

Good flavoured Gooseberries.—It is astonishing what a difference there is in the flavour of some Gooseberries compared with others. Some kinds are worthless for eating ripe, and should only be grown for cooking and preserving. It does seem strange that in some gardens there is a large amount of attention given to obtain highly-flavoured Molons, Grapes and other fruit, while no attention is given to obtain good flavoured Gooseberries; and yet there are but few people who do not enjoy a good dish of well-ripened Gooseberries. Many there are who prefer them in this state to Grapes and other fruit. This being so, I think more attention should be given to the fruit for eating ripe. For many years I have made a point of growing only highly flavoured kinds for this purpose, and having had to grow fruit for three different families during this time, I have found that good Gooseberries are more appreciated than most things. To have them good for this purpose the bushes must be in good condition and the fruit allowed to hang till thoroughly ripe. I consider it a mistake to grow many kinds. Obtain a few really good ones that follow each other in growth in the quantity. The following I grow and find very good: White and Red Champagne, Early Yellow (or Yellow Sulphur), Whitesmith, Ironmonger, Red Washington, Industry and Hedgehog.—J. Crook.

Outdoor Peaches.—In answer to the query over page 94 as to the cultivation of Hale's Early Peach, I may note that it is a success indoors, but outside all that can be desired. We get nothing of the splitting of the crown, it is a certain cropper, the fruit large and highly coloured and of very fair flavour, and it has the additional merit of just hitting the season between Waterloo and Early Louise, the latter being followed by Early Grose Mignonne. I have a peach just coming in (August 6) that is very like Hale's sent under the name of Condor, which is certainly a misnomer. Another misnomer is the prefix to Early Alfred—that is, if I have the variety true

to name; it is here a contemporary in season with Royal George. Both these varieties are very subject to mildew in dry seasons, and are not to be compared in point of constitution with such Peaches as Alexandra Noblesse and Dymond, two of the very best midseason sorts. No hard and fast rule can, however, be laid down in any selection of a given number of varieties, so much depending, as with all other fruits, on soil, situation and climatic influences, the last varying more in different parts of England than one might expect. One often comes across in every old garden instances of the French Peach and Nectarine, and it is remarkable how well some of these old varieties bear. I have three or four remaining on our long wall with stems quite 30 inches in circumference. Stems, however, they can now hardly be called, seeing they are split and hollow a good part of the way, and yet they bear annually good crops of fruit, make very fair growth, and have, as a rule, clean, healthy foliage.—E. BURELL.

Pershore Egg Plum.—Very few gardens outside the district where it is grown so much for market seem to know this prolific bearing Plum. For cooking and preserving there is none better; in fact, it is the most reliable sort I have for kitchen use, as I never fail to get a heavy crop. I planted a dozen of each of the following varieties: Pershore Egg, Pond's Seedling, Jefferson, and Green Gage, and I have gathered more fruit from the Egg Plum than the other three varieties combined. Anyone who has not grown it would do well to give it a trial.—T. T., Wrexham.

SCALDING IN VINERIES.

I HAVE never known scalding so common as this year, doubtless owing to the great range of temperature and difficulty of ventilation. Much of the evil may be arrested by a little shading during the hottest part of the day, and though I am not an advocate for shading, in seasons like the present it is a necessity. I recently had a very bad case, and the variety scalded was Lady Downe's. The canopy had just finished stoning, almost every bunch was at fault, as the latter was of the cheapest description. I was told even in ordinary seasons there was some trouble. Here was a necessity for shade, as it is useless to rely entirely upon airing, as with the thermometer at 120° one day and only half as much the next, scorching and scalding are most common. The well-known but not sufficiently practised plan of giving a little air on the top ventilators at sunset is a good one, and though I have seen air left on at closing time to save labour, it is not a good plan, as when the house is closed and damped down, with air left on, the moisture given soon evaporates. Those with iron or metal houses will need to shade partially during bright sunshine. I do not advise a permanent shade such as a wash of any kind, as I find in our erratic climate one cannot expect full sunshine daily. Though we have had sunshine in abundance this summer, one dull day causes such a lowering of the temperature that it is advisable to use a movable shade. Muscats are often scalded, and to get the best results I allow a little more lateral growth in exposed houses if the Vines are far apart and the ventilation defective. I am aware scalding is at times caused by too early closing, but it often happens through a deficiency of moisture accompanying such early closing. Though I do not like to rock the foliage at the time I intend I am not in favour of dietary closing, as much good is done in checking insects by maintaining a genial warmth with ample moisture, the size of house and state of growth being considered. In the case of young Vines not fruiting it is necessary to be on the alert and to prevent the loss of the main leaves at the base of the buds needed for next year's fruit, as if these are burnt and the canes are hard stopped it causes these buds to burst and the fruit is lost. I know this can be prevented to some extent by a liberal growth from the end laterals, but I have known Vines which

were scorched refuse to swell and perfect their earlier made growth. Buds not carefully matthered often refuse to break at forcing time, so that a little shade is well repaid with Vines which

G. W. S.

ORCHIDS.

CATTLEYA AUREA.

ONCE more this really delightful Cattleya is in bloom, the finest flowers having appeared a few days ago. Although it does not vary so much as some other kinds, yet considerable difference in the types will be noted, especially where a large number of plants is grown. Some with their regularly marked lip and faint crimson markings on the petals come near to the typical C. Dowiana; others will be noticed with the golden yellow tint occurring in larger or smaller blotches and an almost entire absence of pencilling except in the throat, while of intermediate forms there are many. All, however, are beautiful; not a bad form or one not worth its place in a first-rate collection has ever come under my notice. I have seen ill-formed, abortive-looking blossoms, the result of insufficient heat or superabundant shade and moisture, but this has not been the fault of the variety of course, for the same plants under a well-considered system of culture would have produced well-shaped and highly-coloured blossoms.

I have before described the treatment required by C. aurea in these pages, but presumably by queries that come occasionally to hand there are many anxious to grow it who have not yet succeeded as well as they might wish, so a few lines on its culture may to such prove of interest. C. aurea, if received in good condition, is easy to establish, and, judging from the appearance of imported plants, they have not such a long journey to the coast-line as have some other kinds; consequently they do not shrivel so much and the foliage is usually in better order. There is no need to lay such plants out for any length of time before placing in pots; in fact, if carefully attended to they may be potted at once. There is so great a difference in plants grown on the stage and others suspended from the roof, where the light can reach every part of them, that as long as I had the room I should not think of staging a single plant. Whether they are grown in pots or baskets or in pans is of very little consequence, only, get them well up to the light. It is the one thing necessary, for they obtain to the full the benefit of the ventilation, they have all the sun that reaches the house, and in such positions the temperature is higher than on the stage—an important consideration. The cleaning should by no means be missed, however, every part of the plant coming in for careful examination, for Orchids are apparently troubled with many insect pests in their native haunts. But few of the old roots are of any good, as a rule, and it is no use putting dead ones into the pots, as they only decay, to the injury of the new eyes when forming. Cut away all then except just a few to steady the base of the plant. Fill up with clean crocks to the base of the bulbs and hang the plants up in the warmest house at command. Water the crocks two or three times daily when fine, and keep up a nice moist atmosphere. The bulbs will soon plump up and the basal eyes break into growth. There is no need to put any compost over the crocks until these young shoots begin to emit roots, though a thin layer of Sphagnum helps to retain a little moisture and may be allowed. No time must be lost, however, when signs of rooting appear, but a few of the upper crocks must

be removed and a little peat and Moss substituted, and this being quite fresh and sweet the roots enter it freely, to the ultimate benefit of the plants. Endeavour in every case to get the new pseudo-bulbs finished early; they will then have plenty of time for a good rest and will break more strongly in consequence the succeeding spring. When the plants are established this dormant state in winter is to be desired, for growth during this season is slow and ill-bred up; it never produces a fair complement of blossom, and even those flowers that do form are thin in texture and poor in colour. The growths thus to be satisfactory should start with the increasing light and heat in spring, and should go on unchecked until the flowers form in the apex, when in order to conserve these the plants may be taken out of the heat and moisture to where cooler and drier conditions prevail. The pseudo-bulbs will harden and the whole system of the plant will be steadied, so to speak, and by a rather limited supply of moisture and free ventilation, as long as this is practicable, no difficulty will be found in keeping the plants at rest until the spring. Owing to want of room in the Orchid houses, I have this season grown a batch of this Cattleya in a house devoted to Melons. Not an ideal place for Cattleyas, many growers will say, but the condition of these plants and also that of *C. gigas* leave nothing to be desired, the strong heat and abundant atmospheric moisture while the Melons were in growth suiting these two Cattleyas exactly. A little shade was given at first, of course, but as the season advanced this was entirely dispensed with, and the pseudo-bulbs in several cases are half as large again as those of last year.

Although generally known as *C. aurea*, this is really a variety only of *C. Dowiana*, and as a matter of fact the typical plant is occasionally sold as the variety, which differs from the type in having more yellow about the lip, as implied by the name. There are several named sub-varieties, but they run into one another, and it is difficult really to separate them. All are natives of the west coast of America, about the neighbourhood of Costa Rica and Colombia, and the typical form was sent to this country by Captain Dow, to whom it was dedicated by Mr. Bateman.

R.

Vanda Amesiana.—The fragrant and beautiful flowers of this Vanda are now open, and, though late in the season, are very acceptable. Its habitat is quite distinct from all other Vandas, being dwarf, with stiff, fleshy leaves, nearly round and tapering to a point. Considerable variation exists among the flowers, the sepals and petals being usually of a pale rosy white, the lip much deeper and having a decided purple tint. Like most other Vandas, it likes a nice light position and not too much heat, a plentiful circulation of air being kept up about it while growing, and the roots kept well supplied with water. It comes from India and many of the adjacent islands, and was introduced in 1857.

Dendrobium clavatum.—“G. R.” writes to say he has a fine plant of this charming old Dendrobium in flower. It is getting late for it of course, but I have before seen it flowering at the end of summer. It is not, I think, so well known as formerly, which is a pity, as it is one of the handsomest in the genus, though we have one or two others brighter in colour. There is not a single one of the evergreen kinds that continues so long in good condition. The stems are light green, leafy, and the spikes issue from the top, the blossoms being deep yellow, with blotches of reddish brown. It does well given the treatment usually recommended for the evergreen kinds.

—H. R.

Ionopsis utricularioides.—This pretty little species comes from Jamaica, and is not so freely

represented in collections as the better-known *L. paniculata*. The growth is tufted, but the leaves may almost be described as triangular, and they much resemble those of some of the smaller-flowered Masdevallias. The flowers occur on long racemes and are rosy white, with a stain of deepest colour on the lip. It does well in a cool house, and may be suspended from the roof in small baskets or on blocks in a temperature such as suits Odontoglossum grande. Newly-imported plants usually move away with vigour the first few seasons, but the growth is small to sustain such a crowd of flowers over a long season, and, as a general rule, the plants are not long-lived under cultivation.

Cattleya Loddingii.—Though an old and common species, yet its free flowering character and the fact of its being so easily grown ought to ensure for it a place in all collections. It usually attains a height of about 1 foot, bearing on top of the cylindrical bulbs a pair of leaves, from between which the flower-spikes issue. The flowers are rather small but very pretty, the sepals and petals pale rose-lilac, with a deeper colour, and with a blotch of yellow in front. *C. Loddingii* does well with other Cattleyas in the usual temperature, and needs a rough open compost, good in quality, with plenty of water while making its growth. The quieter it is kept the better during the winter.

Odontoglossum bictonense.—This makes a change from the crisipum and similar kinds in the genus, and although it cannot compare with many of these superb plants, yet the blossoms are structurally interesting and distinct in colour. The scape rises from a light green pseudo-bulb and continues to produce flowers over a long season. Each of these in a good form now open is nearly 2 inches across, the sepals a brownish yellow with chocolate bars, the lip pale purplish lilac. It likes a rough and open compost consisting of peat fibre and Sphagnum, plenty of rough pieces of charcoal being added. The drainage needs special attention and may occupy two thirds of the depth of the pot. The base of the bulbs should be kept a little above the rim of the pot and the compost bedded in firmly. It is a native of Guatemala, and although often seen in good order in the cool house will produce larger buds and finer spikes of bloom in a house kept at rather a higher temperature. It is an old species and is said to be the first cultivated Odontoglossum, having been introduced in 1835.

ONCIDIUM TIGRINUM.

The genus Oncidium contains many fine kinds possessing an elegance and grace all their own, and which few others possess. Among them there is none to exceed this beautiful autumn and early winter-flowering kind. The blossoms are very freely produced, of clean white colour and possessing a fragrance only excelled by that of the sweet Violet, which it somewhat resembles. They occur on long, much-branched spikes, that appear at this season on the newly-formed bulbs, each blossom measuring from 2½ inches to 3 inches across. The sepals and petals are rich shining brown, blotched with yellow, the lip wholly light yellow, broad and spreading. It is an easy plant to grow if received in good condition at first, the young growths coming away with vigour in a suitable temperature. This may with advantage be rather higher than that of the Odontoglossum house, the plants being grouped in a good light position, but carefully shaded from bright sunlight. In all cases, if possible, the growth should be kept dormant during winter, as the plants are then more likely to bloom freely. They must not, however, be dried off to cause this rest, or probably they will not again start as strongly as is desirable, the more correct mode of treatment being to keep them in quite a cool house and a slightly drier atmosphere. In early spring new shoots will push from the base of the bulbs, and these should be pushed on rapidly during the summer by keeping up a nice moist atmosphere about them and a free circulation of air. During

the latter part of the season roots will probably be freely emitted and the compost must be kept always moist, and this must be continued as the spikes push up. By the time these are half grown the bulbs will be fully matured, and it will be necessary to reduce the number of blossoms if the plants are too weak to carry them, for, like several others in the genus, *O. tigrinum* will flower itself to death if allowed to do so. In any case it is best to remove the flowers after about three weeks, as if kept on longer than this they weaken the plants considerably. The roots are not strong, though so freely produced; consequently it is best not to give too large pots. Equal parts of peat fibre and living Sphagnum Moss will form a good compost, and the drainage should occupy rather more than half the depth of the pot, elevating the plants a little and potting rather firmly. In all other respects the treatment advised for cool Orchids generally will suit *O. tigrinum*. There are several forms of this plant, but they do not differ very much from the type, excepting *O. t. unguiculatum*, a pretty small-flowering form that blooms later in the season. They all come from Guatemala and Mexico, whence the typical form was introduced in 1840.

GARDEN FLORA.

PLATE 1081.

THE GENUS PRUNUS.

(WITH A COLOURED PLATE OF PRUNUS MUME.*)

In the temperate regions of the northern half of the globe there is no family of trees and shrubs that adds so much to the beauty of cultivated grounds as that to which the genus *Prunus* belongs. Of all the woody plants that can be grown outside in Britain, perhaps one in every eight or nine belongs to this Natural Order Rosaceæ. The larger proportion are shrubs, those attaining to tree-like dimensions consisting chiefly of the Pears and Apples, the Thorns, and, lastly, the Almonds, Plums, Cherries, &c., now brought together under the comprehensive title of *Prunus*. Within these extended limits the genus possesses what to many people, no doubt, is an unexpected richness and variety. There are now between sixty and seventy species in cultivation, besides numerous varieties. From trees of large size to prostrate plants, it contains every intermediate gradation, and includes evergreen as well as deciduous things. It would, indeed, be difficult to exaggerate the importance of this group of trees and shrubs in the adornment of our northern gardens. To the deeper enjoyment of existence that comes to all healthy men with the lengthening days of spring, nothing among external things contributes more than the re-awakening to life of deciduous vegetation, and among arboreal plants no group bears so prominent a part in the early part of the year as does this group of Almonds, Cherries, and Plums. The whiteness that spreads over the land as March passes away and April comes in, and which some poet has happily termed “the foam of spring,” is almost entirely due to them.

In the following notes I have endeavoured to select out of the species now in cultivation those which will best repay growing. Of course, in dealing with this, as with any other group of hardy trees and shrubs, one is always confronted with the nomenclature question—in other words, with the difficulty of making it clear what particular plant is being discussed. This lumping together of all these different

* Drawn for THE GARDEN by H. G. Moon in the Royal Gardens, Kew. Lithographed and printed by J. L. Gofart, successor to Guillaume Soveteyns.





things under *Prunus* has its inconveniences, yet under the circumstances it is the best arrangement. Since the old divisions of *Armeniaca*, *Amygdalus*, &c., were made, species have been discovered which could as reasonably be placed in one as the other. Species, too, that have recently come into cultivation have been named in accordance with this latest arrangement, and thus we have the species here figured, which is as much an Apricot as the common Apricot is, called almost invariably *Prunus* whilst the common Apricot is called *Armeniaca*. *Prunus Davidiana*, too, is rarely called *Persica*, although it is so near the common Peach, that by some authorities it is thought to be its wild type. An additional advantage of using the following names is that they are in agreement with the Kew "List of Hardy Trees and Shrubs," which is the latest authoritative publication on the matter and the most convenient.

SECTION AMYGDALUS (INCLUDING PERSICA).

The Almonds and Peaches are confined to the Eastern Hemisphere, the species coming from North Africa, Eastern Europe, and Northern Asia. They are chiefly distinguished by the stone of the fruit, which is pitted and fissured, and by the young leaves being folded in halves like a sheet of note-paper. All of them are known commonly as *Amygdalus*.

Prunus Amygdalus (*Amygdalus communis*).

Davidiana.

" incana.

" nana.

" orientalis.

" *Persica* (*Amygdalus Persica*).

" Simoni.

P. AMYGDALUS (*Amygdalus communis*, the common Almond).—Few, if any, of the great *Prunus* family do more to beautify our gardens in early spring than the Almond and its varieties. One of the earliest of all hardy trees to come into flower, and reaching its best before deciduous vegetation generally has done more than show signs of reviving life, it is, when in blossom, as conspicuous as it is beautiful. Like all trees flowering thus early it ought to have some background of Holly or other evergreen, against which its flowers may stand vividly contrasted. An Almond is an isolated position with its flowers having no other backing than the cold sky loses half its charm. The original home of the Almond, like that of the Peach, was for long merely guessed at, but it has latterly been found wild in the mountains of Algeria, near Guelma. It may possibly be a native also of other parts of the Mediterranean region and the Orient, where, of course, it has long been extensively cultivated for its seeds. The leaves are lanceolate, toothed and dark glossy green, the flowers being ½ inches to 2 inches across and of various shades of rose, sometimes almost pure white. The tree ultimately attains a height of 20 feet to 30 feet. It was in cultivation in England in 1558. There are several named varieties in cultivation, but none better than the finest forms of the common Almond, which varies considerably in size and colour of flower.

VAR. AMARA (Bitter Almond).—Flowers slightly larger than those of the type; petals almost white towards the tips, deepening into rose at the base.

VAR. DULCIS (Sweet Almond).—This has leaves of a grey-green colour, and it is one of the earliest of all to flower.

VAR. MACROCARPA—This is a strong-growing tree with larger, broader leaves than the type; the flowers, too, which are rose-tinted white, are larger, and appear earlier than those of any other variety.

There are also double-flowered and pendulous varieties cultivated under names denoting these characters.

P. DAVIDIANA.—This is the earliest of all the Peaches to burst into bloom, and in favourable years it may be seen in full flower as early as

January. Few more delightful trees have been introduced in recent years. It was sent to France by the Abbé David, whose name has for some years been well known in connection with new Chinese plants. He says that in the vicinity of Pekin it is one of the most conspicuous trees. Its

originally described by Carrière in 1872, and has been cultivated in the Jardin des Plantes at Paris for over thirty years, but it has only been in commerce during the last decade. It is thought by some authorities to be the wild type of the common Peach.

P. INCANA.—An interesting and pretty shrub nearly allied to *P. nana* (the dwarf Almond). From this, however, it is very readily distinguished by its leaves, which are shorter and broader and covered beneath with a conspicuous white tomentum. It is of dwarf habit, reaching a height of 2 feet to 4 feet. It flowers in March and April, its blossoms being of a deeper rose red than those of *P. nana*, but scarcely so large. A native of Asia Minor, introduced about 1815.

P. NANA (the dwarf Russian Almond).—This, a native of Southern Russia, is one of the dwarfest of the Almonds, being from 2 feet to 5 feet high. It flowers during March and April when the leaf-buds are only beginning to burst, the flowers being of a lively rose colour and about three-quarters of an inch across. The leaves are narrow and Willow-like, smooth, dark green, and glossy. It is a charming shrub, and can be easily and quickly propagated by layering, in spite of which it is more frequently grafted, and is short-lived in consequence. Worked plants should always be refused, unless they are needed for layering. The species will thrive in a dry situation better than most Almonds, this, of course, applying to those on their own roots.

P. ORIENTALIS (Silver Almond).—Unlike the great majority of this group, the Silver Almond is grown more for the beauty of its foliage than for its blossoms; indeed, it rarely flowers with any freedom in this country. Neither unfortunately, is it absolutely hardy, as the great frost of February, 1895, proved, but it will stand our ordinary winters if the plants are not very young and have been established for a couple of seasons. It is a bush or low tree, its leaves, which are short and oval, being covered with a beautiful silvery tomentum thus rendering it one of the most striking of our hardy ornamental-foliated shrubs. It is a native of Western Asia and has been in cultivation since 1756.

P. PERSICA (the Peach).—Although neither so free-growing nor so hardy as the Almond, the Peach in all its forms is exceedingly beautiful, and in positions sheltered from the north and east ought to be planted freely. There is now a goodly number of varieties at the service of the planter, chiefly single and double forms with white or red flowers. There is one also with purple foliage known as *foliis rubris*, this colour extending also to the fruit. Perhaps the loveliest variety of all is a semi-double one with brilliant carmine-crimson flowers which has been shown at the spring meetings of the Royal Horticultural Society for several years past by Messrs. Veitch. It is named *magnifica*, and was awarded a first-class certificate on February 13, 1891. There are other varieties ranging in colour from pure white to deep red which it is not necessary to specify; they are known by descriptive names like *flore albo pleno*, &c. The Peach is in all probability a native of China and has gradually spread westwards, but is known to have been cultivated in Britain for at least 300 years. In England it is not a very long-lived tree and is not often seen more than 20 feet in height. Much premature mortality is due to its being grafted on the Plum, with which it does not seem able to form a perfect union, for cancer frequently starts where stock and scion meet. It would be worth while trying to obtain them on their own roots by means of layers.

P. SIMONI.—This is a comparatively recent introduction to English gardens, although figured in the *Revue Horticole* in 1872. It has leaves of about the same size as the common Almond, but the tree itself is of more erect habit. In the United States—where it appears to succeed better than it does here—it frequently resembles the Lombardy Poplar in form of growth. The flowers are white, and are produced in February and March. As a fruit tree this species promises to be



Prunus Davidiana alba.

branches are of somewhat erect growth and the leaves lanceolate. The flowers are individually 1 inch across and completely cover the shoots made the preceding year, which are frequently 2 feet long. The petals in one form (*alba*) are of a pure snow-white; in the other (*rubra*) they are pink, but not so freely borne. The species was

of value in California. Its fruit is deep purple and ripens early. A native of China.

SECTION ARMENIACA.

The Apricots, like the Almonds, are not represented on the American continent. The fruits are covered with a velvety skin, the stone being pointed at one end, blunt at the other. The young leaves differ from those of the Almonds in being rolled round instead of folded.

Prunus Armeniaca (*Armeniaca vulgaris*).

- " *Bryantiana*.
- " *daescarpa*.
- " *Mume*.
- " *tomentosa*.
- " *triloba*.

P. ARLEMNICA (common Apricot).—The wild type of the cultivated Apricot is not much grown as a flowering tree, although as a fruit tree it has existed in this country for three and a half centuries. The species flowers in February or early March, its blossoms being usually of a pinkish white, but there are varieties with deeper coloured flowers and one in which they are double. The handsome foliage is broadly ovate, smooth, and deep green. The species is found wild in Northern China, having been raised at Kew from seeds sent by Dr. Bretschneider. From thence no doubt it gradually spread westward, and for time immemorial has been cultivated in the Orient.

P. BRIANTACIA (Briancian Apricot).—A small tree with broadly ovate, irregularly toothed leaves, thinly set with hairs on both sides. The flowers are borne in March and April on short stalks, and are white, more or less tinged with pink. The yellowish fruit is shaped like a small Apricot; a tree at Kew is now bearing several. It is a species of very limited distribution, and Loudon states that it is found wild in only two localities—one in Dzherphint, the other in Piedmont. From its seeds a substitute for olive oil is obtained, called *huile de briantacite*.

P. DASCYCARIA (Black Apricot).—The origin of this Apricot is uncertain, but it is most probably a hybrid produced in gardens. Loudon states that it was introduced in 1800. It is a small tree, and there is a specimen in the Kew Arboretum about 12 feet high which flowers profusely almost every year early in April. Its leaves are dark glossy green, glabrous, broadly ovate and toothed, the petioles and young wood having a purplish tinge. The flowers, which are pure white, are fully open before any of the leaves appear and show up vividly against the dark twigs on which they are borne; each is one half an inch to three-quarters of an inch across. The fruit is purple or black, but is rarely seen in this country.

P. M'IME.—Although one of the commonest of cultivated trees in Japan, this Apricot is now thought to be a native of Corea. Under the hands of the Japanese cultivators it has developed numerous forms, and there are now at Kew varieties with flowers red and white, single and double, as well as one of pendulous habit. The bush from which the accompanying plate was prepared was at its best towards the end of last March, flowering in company with the Almonds and equaling them in beauty. The wood resembles that of the common Apricot. The leaves are broadly ovate or cordate-pinnated, and pointed at the apex, into a long tapering point, a character which distinguishes this species from the common Apricot. The plant is leafless at the time of flowering. Although it is only quite recently that this species has come into notice, it has been in cultivation for some years both here and on the Continent, but disguised under other names, one of which is *Prunus Myrobalana fl. rosea*. It is remarkable that a plant possessing the beauty that this does, and, as Professor Sargent says, one of the commonest pot plants of the Japanese, should so long have been overlooked.

P. TOMENTOSA.—A shrubby species, rarely more than 8 feet high, and of quite a bushy habit. It is well named, for the whole plant is more or less covered with downy hairs. The leaf, especially beneath, is covered thickly with a soft velvety

pubescence; its shape is obovate or oblong, narrowing rapidly to a point from the middle. The flowers in April and the blossoms are of a rosy white, becoming more distinctly rose with age. The Cherry-like fruits are borne on short stalks and each one is about half an inch across. The species, which is at present rare in Europe, is quite hardy at Kew. It is very distinct and appears to be a connecting link between the Cherries and the Apricots. It is a native of North China and perhaps Japan.

P. TRILoba FL. FL.—This is perhaps the most lovely of all the dwarf *Prunus*. It is a native of China and was introduced by Fortune, flowering for the first time in this country in Glendinning's nursery at Chiswick in 1857. It is of shrubby habit, with leaves varying from cuneate to lanceolate outline, and frequently obscurely three-lobed; they are from $\frac{1}{2}$ inches to 4 inches long, prettily and unevenly toothed, and covered with short hairs on both sides. The flowers are at their best in early April, and each one measures $\frac{1}{2}$ inches to 2 inches in diameter. On first opening they are of a lovely shade of delicate rose, changing with age to an almost pure white. This species is perfectly hardy and will thrive as a bush in the open. There is a large bed of it at Kew which always flowers freely, although not with the remarkable profusion of an old plant on the walls. The latter is pruned back after flowering, the shoots which spring from the stem in the spring following the previous year. It is one of those plants which every garden ought to possess. Lindley described it under the name here given in 1857 but it has since become invested with a stock of useless synonyms, such as *Amagailopsis* Lindleyi, *Prunus* Lindleyi, &c. The above remarks refer to the double-flowered variety which for forty years has been the representative of the species in our gardens, and which is the cultivated plant of the Chinese. Within the last year or two, however, the single-flowered wild type has been introduced. It has smaller rosy white flowers and leaves of the same shape as Fortune's plant, but smaller. It is not likely to possess the value of the older double variety.

W. J. BEAN.

THE WEEK'S WORK.

FRUIT UNDER GLASS.

ORCHARD HOUSE.—Where water has been scarce—and this has been the general cry in the southern districts of late—much difficulty has been experienced in keeping down red spider, particularly on those trees growing in pots whose shoots had grown near to the glass in houses not sufficiently ventilated, and those having poor, thin glass, for these the scorching rays of the sun had greater effect. Where practicable, after the fruit has been gathered, all such trees should be removed to the open quarters and have their pots plunged in beds where they may be conveniently attended to. The foliage will then be washed by the showers as generated by the falling dew, or they may be sponged with water soon after, when it is mixed with trees still carrying fruit. If this cannot be done, all the air possible should be afforded them to keep their foliage fresh, as it is only by doing so that satisfactory crops can be grown another season. Those still carrying crops must on no account be allowed to suffer from want of moisture at the roots, as this would encourage the spread of insect pests. The best way of keeping them in check is to see that root action is in a healthy condition, that the foliage and fruit may in no wise fail from want of nourishment. Frequent syringing till the fruit shows signs of ripening, with a free circulation of air on all favourable occasions—that the plants may breathe, as it were, with freedom—are the surest antidotes against disease. If syringing is done in the evening when the sun has lost its power, the foliage will remain moist for a considerable time, and so prevent the spread of these troublesome creatures. There is not fear now of causing

mildew by excess of moisture as there is in the spring, the foliage being hard and fully developed. The outside air, too, is less harsh and not so liable to sudden changes. Trees on walls in cool houses should receive every attention, particularly those whose fruit will not be ripe till October. Earwigs and woodlice will harbour more on the walls now than they did in the heat of the summer; traps must therefore be set for them if the fruit is to ripen perfectly.

MELONS.—The fruit on late plants should be setting freely, and if the present favourable weather should continue for a little time longer, there ought to be no difficulty in ripening the fruit while there is sufficient sun to give it flavour. Pay attention to keeping the growths thinned out as soon as a sufficient set has been obtained. It is better not to overload plants with fruit at this season; better have two or three good ones than half a dozen of inferior quality. Where hot-water pipes are used for bottom-heat there will be no difficulty in keeping the temperature of the soil at the proper heat, but where stable manure has to be depended upon for maintaining the requisite degree of warmth, great care must be exercised in watering. As the nights get colder it will be necessary to cover the glass with mats, particularly in pits that are not well heated; these, however, should be removed early in the morning, that the foliage may have the benefit of all the light possible. Plants in boxes, pots or tubs will need care in the way of watering, for on no account should they be allowed to become dry. Those swelling their fruit should be assisted by a top-dressing and manure water; the foliage must also be kept clean either by sponging or syringing. It is, however, not well to use the latter too freely, as the water is apt to run down the stems and rot the plants at the collar. If aphides are troublesome to the points of the young shoots, dip them in quassia water; the foliage may also be damped with the same if these pests are troublesome. Melons in frames on hotbeds should be raised off the soil, but do not expose them to the sun. The watering of these must be very carefully done, that the beds may not become soddened. If the heat is likely to decline too much before the fruit is ripe, add a fresh lining; at the same time do not cause it to rise too violently, or serious injury may be done in the way of scalding. If steam from this should get inside the frame, put air on early in the morning that the ammonia therein may not injure the foliage.

ORANGE HOUSES.—There must be a constant watch kept in these structures for mealay bug and scale, for, owing to the bright sunshine, these pests increase rapidly if left to themselves for a short time. Where the syringe is used freely and a little insecticide added to the water on each occasion, the former does not make much headway, for if not killed they will be dislodged. They, moreover, do not thrive so well in a moist atmosphere as they do in a warm, dry one; therefore, if both wood and foliage are thoroughly watered with the syringe each time the house is closed, they will not make much headway. With scale, however, destruction is more difficult, as it will stick so close to the branches, but if taken in hand while young it is much more easily destroyed. The foliage should be sponged with some insecticide and the wood cleaned by the use of a paintbrush. Take particular care that the plants do not suffer from want of water at the roots, especially where they are potbound and are carrying heavy crops of fruit, as this will throw them into an unhealthy condition, when they will be the more subject to the attacks of the pests before-mentioned. Do not reduce the amount of shade at present, for though the foliage may be getting firm, these plants do not like the bright sunshine, and are sure to suffer if exposed to its direct influence.

PINES.—Though there is still sufficient warmth from the sun to maintain the necessary heat in the Pine stove, the nights are occasionally somewhat cold. With me the other night the thermometer in the open fell to within 1° of freezing. It will therefore

be necessary to look to the fires and see that there are no such sudden changes in the temperature of the houses. Plants swelling their fruit should be afforded liberal waterings with liquid manure, as the sun-heat is still sufficiently powerful to cause quick evaporation. If the ventilators are closed sufficiently early to raise the thermometer to 90°, and to maintain it at that for some time afterwards, this will avoid the necessity of too much fire-heat. It is always good policy to husband the natural heat as much as possible, as by so doing fuel is not only saved, but the plants make a more robust growth. Pines that are colouring are greatly benefited by being allowed more air and kept rather drier at the roots, but as this would necessitate keeping those in this stage in a group by themselves, it is not always practicable, unless they are moved to another house, which is most desirable when they have to be kept some time afterwards. The young stock should be well looked to now, and where the bottom-heat depends on fermenting material, a quantity of this should be got in readiness for warming the beds. Those who root will be benefited by application of root water; this will supply ammonia, and so improve the colour of the foliage. Suckers should be cut rather dry till rooted, when more water may be afforded them, but as the days get shorter, evaporation will not be so great; therefore less will suffice. Be careful to keep the plants free from insects while they are young.

BANANAS.—Suckers that were taken off some time ago and potted as previously advised ought to be well rooted by this. Where this is the case they should be at once put into their fruiting pots or planted out in a bed, for whichever mode of culture is followed, they ought to be established before the cold weather sets in. Fruiting plants should be liberally supplied with water till the fruit shows signs of ripening, when less will suffice. Any suckers required for keeping up a succession of fruiting plants should be potted as soon as large enough, that they may be well rooted before winter. These plants pay for liberal treatment from the first; therefore a rich compound should be used for potting, allowing them a fair amount of root room.

H. C. PRINSEPE.

KITCHEN GARDEN.

CAULIFLOWERS.—Many of the failures with autumn-sown Cauliflowers are distinctly traceable to the initial mistake of sowing at too early a date. Plants which get into a forward state before winter sets in are decidedly prone to buttoning—a condition which may also be induced by checks of any kind, but which is a certain sequence to early sowing. Given mild and open weather up to Christmas, it will be more than probable that plants sown much before the end of August will grow rapidly for buttoning until the early spring months, while those sown later than this will come safely through the winter, and render a good account of themselves at the proper season. It should be well known that small plants withstand frost equally as well, if not better than big ones, so there is no necessity on that score to overgrow them at the end of the year. I grant that in large gardens, where both room and labour are plentiful, it may be wise to make an early as well as a late sowing, with the object of getting a few early dishes, should all go well with the plants; but for the main autumn sowing I contend that the last week in August or the first week in September is soon enough. My own practice is to sow somewhere about September 4, and I rarely have cause to complain of the crop or its lateness. From a sowing made on that date I began cutting early in May, and continued to do so for a period of two months, though this succession was not obtained from one variety alone. It has been held by some growers that the advent of early-forcing varieties does away with the necessity for autumn sowing, but my experience does not bear this out, and I find the produce from autumn-sown seed superior in every way; besides which, we are relieved of the labour of raising and hardening the

plants at a time when the forcing quarters are in a greatly congested state, this relief being a boon where accommodation under glass is limited. For sowing at the present time I choose a warm and slightly raised border in a sunny position where the plants will get a full share of sunlight. I prefer a well broken and fairly rich soil, and sow thinly in drills drawn 1 foot apart, as the less crowding the plants get the better for their future welfare. Protection from birds should be afforded directly after sowing, for I find that newly-sown seeds are germinating very quickly now that we have been favoured by rain, and it is an unwise policy to leave the protection of young plants until many of them have been pulled up or otherwise injured. Dustings of lime, sot, or wood ashes must be frequent while the plants are young, as this will prevent while the plants are young, as this will prevent the attacks of slugs and other insects. To form a succession I advise sowing the Dwarf Ewart Mammoth, Early London, and Walcheren, which will turn in the order given. The merits and demerits of the various globe-flowers have been so recently discussed, that I need give no further particulars of varieties, but I may add that The Duke is an excellent selection which may without fear be added to the above, also that I do not advise sowing now any of the larger varieties, such as Eclipse or Autumn Giant.

CELERY.—Except to keep up a sufficient supply of Celery as the demand arises, earthing may be postponed for a time with advantage to the crop, my experience being that the best Celery is obtained from rows that have only been earthed sufficiently long to induce perfect blanching, and the later it can be left the more likely to resist effectually frost or wet will the crop be. At the same time it is well to go over all rows the plants in which are in a sufficiently advanced stage to show signs of spreading themselves abroad, and to close the spreading leaves up into an upright position by chopping down from the sides of the ridges, and into a fine state, sufficient soil to retain the plants in that form. The quantity of soil needed will vary in accordance with the habit of the variety which is being dealt with, but in no case will more than 4 inches of the new soil be wanted, and this should be pressed closely around the plants after the leaves have been tied together, the latter process being to prevent loose soil from falling inside the leaf stems. No row should be treated in this way until it has had sufficient water, naturally or artificially applied, to keep the plants growing, and dry weather should be chosen, but it is best done when the soil on the ridges is as moist as can be without losing its crumbling nature, as I am convinced that putting dry soil around the plants and leaving it so is responsible for the poor quality of much of the Celery which is seen, and I avoid the use of such soil from first to last. Where watering is still necessary, occasional doses of liquid manure may be given, but I only advise its free use where the supply of manure at the time of preparing the trenches was short, as the sweetest and hardest Celery is grown without much help in this way. A slight sprinkling of salt, in the trench on each side the row, will be useful in attracting moisture and in keeping worms at bay. Late rows should be looked over and divested of any side growths or puny leaves that may be found round the base of the plants.

LETTUCES.—Another final and final sowing of Lettuce of both sections should now be made, the selection being of the hardest varieties, such as the Brown Cos and Paris Market Cabbage. Sow broadcast on a warm border, but far enough away from the wall to escape the influence of radiation of sun-heat in bright frosty weather. Cos varieties sown now will come in for spring planting, and the Cabbage varieties will, if sufficiently thinned, turn in for use where sown. Avoid thick sowing, as sturdy plants are much harder than those which are drawn through being too thick.

RADISHES.—Yet another sowing of both winter and summer Radishes should be made to succeed those advised to be sown a fortnight ago. French Breakfast sown now will remain good until spoiled

by frost, and I find it very acceptable so late in the season. The winter varieties proper will need thinning out freely before they become crowded, so that each root left will have plenty of room to expand.

GENERAL WORK.—Continue to clear off all spent crops directly they are past bearing, and dig or otherwise treat the ground so that it shall be in readiness for Endive, Lettuces, and other things before these have begun to spoil in the field. These should be planted freely, as there is no fear of a glut of such things where they are in demand. Turnip-rooted Beet should be pulled and laid in soil in a cool place. This will keep the roots solid and prevent them from getting coarse and overgrown. Sow a small plot with Chervil seed, choosing a position under a fruit tree or some such sheltered spot. Cut out all old stems from the main plants of Globe Artichokes and feed with liquid manure water young plants set out last spring. With me these promise to take up the running and to continue giving a full supply of heads till stopped by frost, but this should not be attempted unless the plants are well fed in the meanwhile. It is early yet to write about frost, but a morning nip is not uncommon in gardens near water at this time of the year, so it is well to be prepared with some covering material for the protection of Vegetable Marrows, Tomatoes, late French Beans, and the like, in case the necessity for using it arises. It is time well spent to fix at least the supports on which such coverings are intended to rest, as this will simplify matters in case of emergency.

J. C. TALLACK.

STOVE AND GREENHOUSE.

FUCHSIAS.

ANYONE who may chance to visit Trowbridge show will soon become convinced that enthusiasm for this old, but graceful and glorious plant has not yet died out—at least, so far as that neighbourhood is concerned—the magnificent specimens there displayed being perhaps the chief attraction of the show. At other shows, notably Norwich and Ipswich, evidence of attachment to the Fuchsia may still be seen, the gangway opposite the staging place being often blocked by admiring visitors. The custom practised by old exhibitors of retaining old plants year after year has, in spite of the very creditable show these veterans made, died out, it having been proved that, by an express mode of culture, plants fit to face the most formidable competition can be produced in two years from the cutting. Cuttings strike readily in a gentle moist bottom-heat if secured with a heel from old plants placed in heat in early spring and induced to break. When rooted, pot into small pots and grow them on in an intermediate house until, say, the middle of May, when they may be placed in an ordinary greenhouse near the glass and kept free from draught. The house must be closed early to husband sun-heat, a shift into larger pots being given as soon as the small ones are tolerably well furnished with roots. A compost of good yellow fibrous loam, well decomposed cow manure and leaf mould, adding sufficient road grit or coarse sand to keep the whole open, suits Fuchsias well. To form good pyramidal-shaped specimens, the leading shoots should be secured to a neat stick, and the side growths pinched regularly in order to secure a well-furnished plant. The syringes may be used over the foliage on fine afternoons, and although Fuchsias delight in abundance of light and sunshine, a slight shade of milk and whitewashing over the roof glass during very hot weather will prevent the leaves from being blistered, which sometimes happens when the sun shines suddenly upon them in the morning.

Old Fuchsias growers used to feed their plants with liquid manure manufactured by casting a bag filled with sheep manure into a large tub of water. No doubt this suits them better than all the artificial manures in the world. Dilute it to the colour of pale ale, giving it at first twice a week, afterwards thrice, and finally each day in the week. Blooming over, place the plants out of doors, giving them a sunny position in order to ripen up the wood, and in October remove them to perfectly cool quarters and give only sufficient water to prevent shriveling. I do not approve of the plan of storing them away on their sides beneath stages or in sheds and entirely withholding water, as in such cases shrivelling beyond recovery often takes place, and some of the plants even die outright. In spring reduce the balls, giving smaller pots, place in a comfortable temperature and pot on as before. J. C. C.

Begonia Martiana gracilis.—This is one of the most distinct Begonias we have seen, habit tall and erect, usually producing only a single stem to nearly 2 feet high, and furnished at intervals with leaves of medium size. The pretty salmon-pink flowers appear on short peduncles from the leaf axils—a very distinct characteristic. In this species bulbils that may be sown after the manner of those on the stems of some Lillies are produced from the axils of the leaves. The above species is both distinct and ornamental, and is now flowering in No. 7 house at Kew.

Cassia corymbosa.—I was pleased to see a note on this useful and free-flowering old greenhouse plant, for with me it has always been a favourite. The culture is remarkably easy and the plants are very seldom attacked by any insect pest. Formerly I grew several very large old plants that had a fine appearance when in bloom, but were too bulky for winter, Chrysanthemums and other things all coming into the houses about the same time. I strike a few plants now every season, and at present have several 3 feet 6 inches across in flower about thirty months old. They will be cut back as soon as the flowers are over and kept quiet during winter, repotting in spring and again growing on. It is a very gross-feeding plant, and if well fed at the roots—so as to get a vigorous growth into the plant—the foliage attains a deep shining green that shows up the golden yellow blossoms to perfection.—H.

Swainsonia galegifolia alba.—I find this is a general favourite with the American florists, and I think it is well worth attention here, either as a pot plant or for cutting from. There are few subjects which keep up such a succession of bloom, and little cultural skill is required to have it in good condition provided it is kept free from red spider, which is its greatest enemy. Cuttings taken from cut-back plants when they begin to start into new growth will root freely in an ordinary hotbed or the stove propagating pit. I prefer to take cuttings in a pot and set them without being troubled with spiders. Plants succeed best when potted in a good loamy compost, and should be grown in a cool greenhouse. It may be treated as a climber. Planted out against a wall it will give an abundance of bloom nearly throughout the year. I remember some years ago it was grown as a specimen greenhouse plant. The same plant did service for quite a number of years, being simply cut back and repotted in the spring. I was reminded of this useful old plant by seeing it in Mr. Thoday's nursery at Willingham, where it is grown for cutting.—A. H.

Vallota purpurea.—It would be hard to name a more beautiful plant for the decoration of the greenhouse or conservatory during the autumn months than this. It is equally valuable when grown in small pots either for the sitting room or for the decoration of the dinner table associated with Maiden-hair or any light, graceful Ferns. A mistake is sometimes made in drying off the

bulbs in winter, a practice productive of much harm and an almost certain preventive of the plant blooming the following year. Potting should take place as soon as the flowering is past, giving a compost of three parts rich loam and one part well decomposed cow manure, leaf-mould and coarse sand. The plants should be given a light place in a warm greenhouse and kept steadily growing, but until February very little water will be required. As the days grow longer and moisture will be required and from June till they flower they will need a cool pit facing south will grow them well. The flowers remain in good condition for a considerable time if shaded from strong sunshine; indeed, old exhibitors of stove and greenhouse plants—who always included a large specimen of this telling subject in their autumn collections—by retarding them in a north aspect house, made the same plants do duty at several shows. If a few plants are reserved for successional work, and are kept in a north or very cool house until well into the spring and afterwards urged on in a more genial temperature, a supply of bloom may be had for several months.

has a diameter of just upon 6 feet. *A. princeps* is a native of New Grenada. Those who like good collections of fine plants in their glasshouses should certainly include this species, whilst a few other noble Maiden-hairs include *A. Farleyense*, certainly queen of the family; *A. aneiteense*, *A. digitatum*, *A. formosum*, *A. peruvianum*, *A. trapeziforme*, *A. Veitchianum*, and *A. velutinum*. A. HERRINGTON.
Madison, N.J.

FLOWER GARDEN.

NOTES FROM EDGE HALL.

The summer has been exceedingly good for most flowers; the high average temperature and unusual (for Cheshire) amount of sunshine were especially favourable for the cold soil of this garden. One need not repeat the praises of flowers which every gardener knows and ad-



Adiantum princeps. From a photograph by Mr. J. C. Allis,
Madison, New Jersey, U.S.A.

When the plants are in free growth and have plenty of roots, occasional diluted doses of farm-yard liquid manure help them much.—J. C.

FERNS.

ADIANTUM PRINCEPS.

THERE are several noble species of Maiden-hair Fern rarely seen in cultivation, yet worthy of the best attention. The subject of this note is indeed a fine species, and one easily grown into a fine specimen if given proper treatment in a warm greenhouse or stove. The illustration shows a plant of *A. princeps* growing in a broad pan about 6 inches deep, and this luxuriant mass of graceful fronds represents the growth of three months only, as the plant was cut down to the soil last winter whilst the photo was taken during the month of June. The illustration fails to do full justice to this fine piece, as the fronds drooping admirably hide the pan the plant is growing in. If the fronds are lifted up into a horizontal position the plant

mires, but I will note a few which are not in universal cultivation. It would be thought tedious if I wrote much about North American yellow composites. Mr. Gumbleton lately sent me a specimen of a new departure in these, the first double Rudbeckia I have seen. The species is *R. lacinata*, and the tall branching habit of that plant is very distinct from the upright stalks of *Helianthus multiflorus*, which it resembles in flower. With regard to the other plant mentioned by Mr. Gumbleton on p. 134, a variety of *Helemium autumnale* called *superbum*, for which I am indebted to him, I think the epithet *superbum* misused, unless it denotes commanding height, for the plant has grown 7 feet high and the stalks are densely branched and densely packed with flowers at the summit, but the individual flowers are such as the bearer has no reason to be proud of, being inferior to those of *H. var. *pumilum**, and to the ordinary type of the species as sold in Ware's nursery. It is true, however, that very inferior forms are often sold in nurseries. Next I recommend to every gardener a plant I obtained some years

ago at Ware's nursery under the very unbotanical name of *Helenium grandicephalum striatum*. It grows 5 feet or 6 feet high, flowers very freely from July to the end of September, the flowers being dark orange, irregularly mixed with yellow, and having a very distinct and bright appearance, so as to be always the first flower which attracts the notice of visitors to the border where it grows. I apply to it the botanical name of *H. nudiflorum* (Nuttall), because it seems to answer to the description of that species in Asa Gray's "North American Flora," but Asa Gray tells us that it forms hybrids with *H. autumnale*, and possibly this may be one of them. Then there is another conspicuous late composite which ought to be in every garden, a thing I should not say if there were any difficulty about its cultivation, but there is none. It is a tall, free-flowering Rudbeckia with broad falling rays of very bright yellow. It is variously called *R. levigata* and *R. nitida*, but it certainly does not answer to Asa Gray's description of either, and I believe it to be a hybrid. Mr. Barr, adopting this view, calls it in his catalogue, I think, Autumn Glory, or some such safe name.

Now I want to call attention to the Sidalceas, of which I cultivate four namely: *S. candida*, about which I say nothing, and three forms all referred to *S. malvaeflora*, but differing widely from one another. The old type (No. 1) is a leafy herb, with small close spikes of small mauve flowers, and is of little merit. No. 2 is not leafy, but makes spreading stalks 2 feet high from a small base. The flowers are large, pale clear rose in colour, and produced all up the stalk from within a few inches of the ground. The stem leaves are digitate, with very narrow fingers. If I mistake not, this variety was lately certificated under the name var. *Listeri* by the R.H.S., but I have cultivated it for twenty years. No. 3 is nearly identical in habit with No. 2, but has dark mauve flowers, and is the best of all. It flowers a month later than No. 2, lasting all August. I first saw it in Dickson's nursery at Chester two years ago. I have raised both 2 and 3 from seed, and found them come quite true to colour; both are valuable additions to the hardy border, as they stand violent wind and rain without artificial support. They are perennial, but flower the first year from seed and last four or five years. At two or three years old each plant makes twenty or thirty stalks, springing from a very small base.

A few days since a lady was in my garden who had lately been on a visit to her son at his ranch in Wyoming, 8000 feet above the sea-level, on the Rockies. She was much pleased to see two flowers in my garden which she had lately seen in conspicuous abundance close to her son's house, but she did not know that they were in cultivation. One of these I have generally called *Zygadenus glaucus*. I believe the more correct name is *Z. elegans*, and it well deserves the name, for it is a bulb with a tall, branching and graceful panicle of flowers of an indescribable colour, which I will call pale yellow-green. It came to me several years ago, having been collected by my son in North-west Canada, with another species less tall and flowering much earlier. Four species are recorded as found in the Rocky Mountains, and they all have a strong family likeness; but this late kind is well worth cultivation, and is contented anywhere it is put. The other flower is now named *Sphaeralcea Munroana*. Fifty years ago it was *Malva*, then *Malvastrum*, and next year it will perhaps be something else; but, whatever its name, it will always be beautiful and in gardens rare, for though, of course, very hardy and

perennial, it never in my garden survives a winter out of doors, so I grow it every year from cuttings. These must be planted out on the edge of a rock or raised bed, so that the plant may fall, or all its beauty is lost. It grows fast, and by the end of July makes a broad mass of pretty foliage, thickly set with dark red cups of a very uncommon shade, and it keeps growing and flowering till late in autumn. Mixed with the bright blue *Geranium Wallichianum* it is very effective. Four or five *Cimicifugas*—all of them ornamental both in flower and leaf—are grown in this garden. There is the well-known *C. racemosa*, a grand plant when it grows well, and it is here 6 feet high, but it need not be described. Soon after it comes *C. dahurica*, equally tall, but with a more branched panicle, the secondary branches crossing one another at a slope after the manner of a complicated piece of fireworks, and quite distinct in its habit. Next, at the end of July, comes *C. cordifolia* with creamy compact spikes of very great substance and 4 feet high, and stalks easily self-supporting—a fine ornamental plant. There flowers at the same time another, very like *C. racemosa*, but not nearly so tall; whether distinct or not, I am not sure. The latest, which seldom begins to flower till September, is *C. japonica*. This has numerous slender, upright spikes 2 feet long, pure white, with flowers having the appearance of those of the double dropwort Spireas. It requires a shaded position and moist soil, or, like several other late-flowering Japanese plants, it withers prematurely. I may mention its synonym, *Pityrospoma acerina*, Siebold's name for it, by which it is still catalogued in some nurseries, but which undergoes such variations of spelling that it cannot always be identified.

A few words about some very beautiful bulbs flowering in late summer will bring these notes to an end. I mean Lemoine's hybrid Montbretias. When first I tried these I made the mistake of putting them in full sun, supposing that no English sun heat could be unwelcome to them, but year after year the leaves turned brown and withered almost before the flowers opened. I now find that by planting them in moist, peaty soil amongst such shrubs as Azaleas, through which they can grow without having their base exposed to the sun, much better results are obtained, and the green of the leaves continues to the end of flowering. The clumps continue to the end of flowering. The clumps if allowed to remain undivided for more than two years seem to exhaust the soil and produce few or no flowers, and those stunted, so frequent division and transplanting are necessary. As to hardiness, I left many varieties out during the winter of 1894 littered with 4 inches of Pine needles, and lost none. Some varieties are far more vigorous than others. My favourite, perhaps the hardestiest, is *Etoile de Feu*. Bouquet Parfait and Drap d'Or are also very good, but perhaps their habit may vary in different soils. Now, in the middle of August, they are all in full flower.

C. WOLLEY-DOD.
Edge Hall, Malpas.

Phlox Drummondii as an exhibition flower.—At some of the west of England shows the varieties of *Phlox Drummondii* have quite taken the place of the *Verbena* as an exhibition flower. When well grown and arranged in neat bunches of several trusses they are most effective, and the blossoms do not fade when placed on the exhibition table nearly so quickly as do those of *Verbena*. In times past dozens of certificates of merit were awarded to *Verbenas*, but it is doubtful if even that honour was done to a variety of *Phlox Drummondii*—even *D. splendens grandiflora*, which in form, substance and colour excels

any *Verbena* ever raised. The striped varieties cannot compare with the self-coloured types for effect, but the most useful kinds of mixed varieties, which will probably come in due course. The *Star Phloxes*, as they are termed—that is, the forms of *cupidinata* which originated in Germany some ten years or so ago—curious though they are in the formation of their corollas, yet cannot compare with the *grandiflora* section for decoration. It is curious to see an accidental and abnormal form fixed and perpetuated. The segments of the corollas are irregular and break out into sharp spines, which impart to them a grotesque appearance; and lovers of the curious in flowers find them decidedly attractive, and they seem to afford tints and combinations of colours not found in the more perfectly formed types. They sometimes put in an appearance at exhibitions, but at their best they cannot be put before the large rounded blossoms of the older type, nor are they nearly so effective in beds. Beds of the latter are now in their best character, and when the leading shoots have been pegged down a little the surface is a symmetrical mass of blossom. As to the *Drummondii* *Phlox* seeds pretty freely, the effect of a bed can be easily imagined by cutting off the trusses as soon as the blossoms fade, for if the plants are allowed to mature their seeds there will be a corresponding dearth of flowers. This useful type of *Phlox* is also persistent in flowering, the younger growths maintaining the supply of blossom until quite late in the season.—R. D.

Pansies for spring flowering.—I was much surprised to read the other day a remark by a well-known GARDEN contributor, that Pansies and Violas should not be propagated by using rooted pieces, but only by means of cuttings. That was a surprising dictum in face of the fact that literally millions of these plants are propagated by division, not only in private places and in nurseries, but especially in market plant establishments where hundreds of thousands are so produced every year. I know one grower for market who turns out in the spring fully 100,000, and he divides his plants twice in the year. After the spring sale is over all that are left are lifted, pulled to pieces and replanted in fresh soil and in proper order, and if needed they are well watered. During August these plants are all cut over rather hard, then they are allowed to form new growth. Towards the end of September the work of lifting, dividing, and replanting goes on, and really first-rate rooted plants in mid-size bunches are turned out for sale. The method of treatment enables them to be sold very cheaply, very large quantities being bought up by the trade for spring bedding. I feel very strongly that whilst raisers of these plants, and especially of the Tufted section, have been flooding us with fancy varieties, the bulk of which have no value whatever for bedding out, great need exists for a race towards the production of which little attention has been directed. We want very early bloomers, varieties that will flower with the *Aubrietas*, *Primroses*, and other early hardy flowers in March and April. There are plenty that will flower in May, but they are not of a sufficiently early race. The well-known Blue *Pansy* is naturally the very earliest to flower of any, yet it has no compeer in other colours. Every season demonstrates the value of these plants for both spring and summer bedding.—A. D.

Notes from Abbotsbury, Dorsetshire.—In these gardens, to which I drew attention on p. 383, vol. 49, there are at present several noteworthy plants in bloom. Perhaps the most striking is a large bush, or rather tree, of *Clerodendron trichotomum* about 8 feet high by as much through, covered with clusters of its sweetly-scented blossoms. It is in the best of health and evidently, in its sheltered site, stands in no need of protection. Many great bushes of *Hibiscus syriacus* and its white variety, studded with countless large blooms, are exquisite pictures, and many large plants of *Fuchsia corymbiflora* are carrying large tassels of brilliant crimson flowers. *Diplacus*

glutinosus, which has occupied its present position for three years, is in fine bloom against a wall, as is the lovely *Plumbago capensis*, whose light blue tint is even more attractive in the open air than under glass. *Clematis cocinea* is also in flower and the stem of a tall Palm (*Chamomopis Martiana*) a native of Nepal, which has reached a height of about 18 feet, is wreathed with the showy blossoms of *Rhodochiton volubile*, a Mexican climber which seeds freely in the open air at Abbotsbury. *Crinum longifolium* is in bloom in the border, as are *Datura chlorantha*, *Centropogon Lucyana*, *Cerinthe major* and *Stachys cocinea*, while some fine hybrid *Verbascums*, both white and yellow, are exceedingly handsome. By the waterside the vivid scarlet of *Mimulus cardinalis* makes a high note of colour, and the Bamboos, with slender arching canes and finely-cut leafage, create a background of beautiful aliveness in form and motion. *Bambusa quadrangularis*, the little-known variety, is growing strongly and throwing up numerous shoots, some of the stems already showing their four-sided characteristics from which this Bamboo takes its name. Little sign of the drought is exhibited by the Bamboos, many of which, planted as late as last March year, are now fine clumps. The gardens contain a large selection which, when sufficient time has elapsed to allow the different varieties to exhibit their permanent form, will constitute a feature of exceeding interest. *Coleuta arborescens* (the Bladder Senna), with its branches thickly hung with large seed-pods, is a remarkable sight, and *Staphylea colchica* (Bladder-nut), with its bunches of round pods, is almost equally noticeable. *Crataegus glandulosa* and *C. tanacetifolia* are both fruiting heavily.—S. W. F.

P.EONIES AS CUT FLOWERS.

Paeonia alba (L.) when cut with long stems, makes a most satisfying table decoration. The accompanying illustration, which is taken from a photograph by Miss Mabel Smythe, shows how well the single white Peony, with its tassel of golden anthers, fills a tall silver vase. Cut Peonies look best when arranged in separate colours. A large vase filled with blooms, shading from delicate pink to cherry-red, was exquisite. Large vases and bowls display the beautiful sprays of flowers and foliage to the greatest advantage. The first flowers that open are the largest, and sprays can be cut with one large open flower, and two or even three smaller ones also open, and surrounded with buds. The blooms in the illustration were almost the last of the season and not nearly so fine as many that were cut earlier from the same plants.

St. Anne's, Levens.

M. MONK.

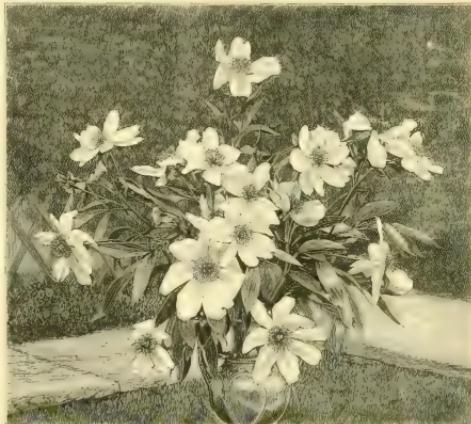
Roadside flower borders.—In many of the Dorsetshire villages the cottages abut on the road, and at the present time brilliant colour effects are often observable in narrow borders of soil, mostly but a foot or so in width, at the roadside. Annuals are naturally the chief occupants of these scant slips, although not seldom tall Hollyhocks rear their stately heads close to the latticed windows. Tiger Lilies grow against the whitewashed walls, or a strong-growing Carnation spreads a goodly clump, into the dusty road. Scarlet Zinnias and yellow French Marigolds appear to be the most general favourites, and certainly their decided colours have the merit of being unequalled for distant effect. Petunias, Asters and Stocks run them hard, while Phlox Drummondii and blue Lobelia are also not uncommon. Sunflowers are sometimes seen, but their gigantic heads are rather overpowering in such straitened quarters, and they are therefore, with good taste, relegated to more spacious plots. It is pleasant to think of the love of flowers that has prompted the labour necessary to skirt the cottages with a floral hem, and thus render lovely a position which, unadorned, becomes a receptacle for waifs of straw, sticks, rags or other garbage. Nothing can exceed the

healthful look of these roadside flowers, careful watering and unremitting attention being responsible for their well-doing. In some cases the effect of the border is heightened by Canary Creeper or scarlet Nasturtium trained on strings up the wall, the *Convolvulus* also being treated in the same manner.—S. W. F.

FLOWER GARDEN NOTES.

When the experience for 1896 in connection with hardy flowers has to be recorded, I take it in the majority of cases we shall find that old-established stuff came through the ordeal considerably better than young plants that were put out early in the present year or even late in 1895, so far at any rate as high, dry soils are concerned. Not that the usual rule is not observed in herbaceous plants. Whether old or young all stand much below the average height, so much so in fact that a friend looking through the other day wanted to know whether our Starworts, *Helianthus*, *Chrysanthemum maximum* and *C. uliginosum* had been

old-established clumps being much the earlier. This characteristic, so far as this family is concerned is, however, very acceptable, and it is matter for future consideration whether beds devoted entirely to them might not have equal portions of old and young plants, so that the flowering season might be prolonged. I find if the centres of the older plants are nipped out as soon as the beauty of the flower is on the wane, the side growths will come along and succeed the bloom on the younger plants. With other things the season has been answerable not so much for checking the development of flower as in arresting the vigour of the plants. The proverbial advantage on the side of youth is the exception instead of the rule. In connection with these hardy flowers it is well to give the reminder that if notes have not been taken of those things of special value it is not too late to do so, with the view to strengthen their numbers for another year. Pyrethrum *Aphrodite*, *Celia*, and *Melton*, Carnations *Hayes' Scarlet*, *The Pasha*, *Uriah Pike*, and *White Clove*, *Phlox Snowdon*, *Hemerocallis Middendorfii* and *H. Thunbergii*, *Achillea The*



Single Peonies in a bowl. Engraved for THE GARDEN from a photograph sent by Mrs. Monk, St. Anne's, Levens.

stopped or pegged, or both. All these are dwarf in comparison with their usual form, but their heads and flowering properties do not seem to be suffer thereby; not that individual blooms are smaller than usual. Having planted out a considerable number of young plants early in the present year, I have had an opportunity of comparing their behaviour with that of older stuff and record the experience gained. Herbaceous Lobelias, young plants, came away very slowly, and it was some time before I could get them to make any kindly growth; buds of both *cardinalis* and *fulgens* are only just (August 10) showing their colour. Older plants, on the other hand, that were left in the ground, all through the winter and received first a heavy mulching and then a dose of rough coal ashes have been in flower some time. This dose of coal ashes is, by the way, an essential feature in the case of all herbaceous things left in the ground through the winter whose foliage in the early spring is apt to be riddled by slugs. Platycodon Marianus planted in the early spring was late, and although it afterwards flowered freely, there was a lack of vigour in the stems, and the blooms were not thrown well above the foliage. The difference both in the early and late-flowering Phloxes is marked,

Pearl, and *Helianthus latiflorus* are a few really good things.

SUMMER PROPAGATING.—Where gardens are naturally dry and facilities for watering are very scanty, there has been very little growth in summer bedding plants, and in many cases cuttings will be scarce. Given a fairly good soil, strong plants to start with and one thorough soaking, *Pelargoniums* are close and compact; there has been no strong growth, but, on the other hand, plenty of flower. For the last few years I have relied mainly for scarlets on *Raspail* and *Turtle's Surprise* respectively for medium-sized and small beds: they are nearly as bright as the best singles, and there is the additional merit that if one wants a big handful of scarlet flowers they can always be culled from the beds. Henri Jacoby is still the best dark scarlet, *Surprise* the best salmon, and *Amaranth* and *Constance* the most reliable dark and light pinks. There may be a better single *Pelargonium* than *Constance*, but I have yet to find it. Alike for bedding or for summer and winter flowering in pots it is first class. Such fine strains of *Verbenas* and *Petunias* are now obtainable from seed, that one can dispense with the trouble of a lot of cutting pots through the winter, unless it be some exceptionally good thing

it is desirable to perpetuate. The difficulty in keeping a stock of silvery *Carexas* is also at an end. Experiments have been carried by sowing in January. Lobelia I have very nearly discarded in favour of the different shades of Tufted *Pansies* and Cannell's dwarf *Ageratum*. The latter has been a mass of flower for the last month and will continue in good form till the frost nips it. Cuttings will not be easily obtained, and we shall have to cut over and pot up a batch of old plants which, if kept growing along gently through the winter, will furnish a plentiful supply in early spring. *Calceolarias* were a failure with me for several seasons, and were accordingly shelved for Mrs. Clibran *Tropaeolum*, which does remarkably well in our light dry soil. Begonias of the semperflorens type are very fair alike in flower and foliage. They are seen to the best advantage on a carpet of Mangold *Geranium* or *Mesembryanthemum*. The above comprise nearly all the bedding plants I find it necessary to grow. Hardy plants and enduring March-sown annuals have largely taken the places they formerly occupied through the summer months.

Scented FLOWERS.—With the prospect of a hot, dry summer before us a good breadth of *Mignonette* was sown on a north-east border. It is a damp, sunless year such a site is practically worthless, but this season it has proved the best place. The plants have thoroughly enjoyed their quarters and furnished an unlimited supply. The annual *Bellflower* is not much to look at, but the scent is all that can be desired, especially fragrant in early morning and evening. The first blooms having been removed, the plants are branching out and flowering well from the side shoots. This is a good time to sow East Lothian Stocks for an early display next season. They should be sown thinly in separate colours and pricked out into boxes or a cold frame to stand through the winter. If a sowing of Margarita Carnations was made in February, as previously advised, and the plants put out early in a well-prepared border, they will commence flowering early in August and just hit the season nicely after the ordinary border sorts are over. *Eucalyptus citriodora* is growing away strongly, and its side growths are sufficiently long to use occasionally in vases with other flowers where the strong lemon perfume is appreciated. The finely-cut foliage of the scented Pelargoniums can be utilised for a similar purpose.

Clarendon.

E. BURRELL.

DRYING LILY BULBS.

At p. 107 Mr. T. Smith remarks that "it is well known that Lily bulbs should never be dried—in fact, it is often disastrous so to do." In closely following this piece of advice we cannot always boast of anything like a full measure of success in the cultivation of many beautiful species. I learnt this many years ago, and, indeed, possessing a full knowledge of the supposed disaster that should, according to some growers, ensue, I experimented on a few cheap kinds in exactly the opposite way. The result of this experiment has caused me to recommend others to do the same, for I have never in one single instance had to record disaster of any kind. I take it that Mr. Smith, not having himself practised the drying off, can scarcely be giving his own experience when he speaks of the "disastrous" results of such experiment. However, distinctly state that no one need fear any ill effect of drying certain species of Lilies in the way suggested recently at p. 67 of THE GARDEN, as the bulbs in question were taken from a lot that two years previously were wrecked by disease. For this reason I purposely subjected them to a longer term of drying than usual, with the results as stated in my previous note. And not only to the Madonna Lily (*L. candidum*) has the drying been applied with every success, but also to such as *testaceum* and *chalconicum*, the flowering

that succeeded the compulsory rest forming the most conclusive evidence that the bulbs hitherto sickly had greatly benefited by the change. In a genus of such an extensive range as *Lilium*, containing species that inhabit all parts of the habitable globe almost, it is hardly possible that all shall be governed by this every day rule of thumb. Rather, I think, one's experiences and failures with certain species point distinctly to the need of full and complete experiment on opposite grounds. There is one thing, I imagine, that Mr. T. Smith has lost sight of, and this is that so long as any Lily remained in health and vigour I would be the last to interfere with that frequently absent condition for the sake of experiment alone. On the other hand, when a plant is smitten by disease or from other causes is obviously not contented with its lot, I do not hesitate to adopt other means when the orthodox methods are a failure. Year by year we get consignments of Lilies both from America and Japan that are in the latter instance three months at the least in the dry state. Not that they will survive the journey by any means, yet numbers of them do, and others eventually make fine specimens. I am not referring so much to *L. auratum* in this case, because the great bulk of this rarely survives the flowering, and many others arrive in a state of rotten pulp. This is, however, due to peculiarities apart from the subject of this note. On the other hand, many thousands of *L. speciosum* varieties really make fine specimens and continue healthy year by year. And here is a problem worthy of solution. We get in bulk *auratum* and *speciosum* from the same source, subject to the same system of packing and long-protracted journey, yet *L. auratum* rarely survives the first flowering here, and *L. speciosum* can in a large degree be established and flowered for several years in succession. Can any grower of Lilies suggest a reason for the difference?

Mr. Smith speaks of drying as "disastrous," but this is not my experience ; indeed, I have recorded instances quite the opposite in years past, and some of the very finest bulbs of *L. Humboldtii* I ever saw I received in a much shrivelled condition from their native home. Why they should have been so much shrivelled I was at the time at a loss to understand, as it was quite disproportionate with so comparatively short a journey. So I concluded the bulbs must have been out of the soil some time prior to being packed. At any rate, there was neither disaster nor loss, for the whole batch developed fine bulbs, and some that were sent away a short time after being received were quite fresh and plump. And is not this rather consistent with the soft succulent nature of the scales of these bulbs, and is it not possible that the great amount of stored-up energy in these big outer scales had gone to support the central and, for the time being, the most vital part of the bulb? I think so. For some years I had to plant at varying unseasonable moments the residue of these bulbs after the sale for the season was completed, and from bulbs lifted in October and merely kept in coco-nut fibre, more or less dry, in the bulb shop. I have had some returned, maybe after three months or more, little better than half the size of their former selves. This is the kind of drying that may prove disastrous, particularly when it is kept up far beyond any reasonable limits, and yet the growth that ensued in some instances was often a matter for surprise. The variety that was generally most reduced was the French imported *candidum*, while home-grown bulbs of the same variety remained much more firm and plump, and particularly so the heart of the

bulb. In all cases the old outer scales supply the centre with its stored-up sap and energy. I also note that Mr. Smith is opposed to the idea of the disease germs being present, yet the evidence he gives at page 107 appears to point rather to this end. But "because the summer was dry" there is not "a solitary trace of disease." Yet one might reasonably suppose the disease to be there in plenty in the bulk of old stems, &c. Doubtless this was the case, but the one essential, viz., moisture, was, as Mr. Smith says, absent in that year, and with the warmth and moisture the germs of the disease could not vegetate. I am fully convinced that the disease is either present or carried down by the rains, by reason of the rapid development and destructive character of the disease at such a time. Indeed, the rapidity of the attack favours the notion that the disease is present and merely waiting the conditions essential to activity.

E. J.

NOTES ON HARDY PLANTS.

Actaea spicata.—This, the wild Baneberry or Herb Christopher, is one of those instances of a vastly improved habit and beauty when given the benefits of garden culture. In bloom in May, the spikes of white flowers on a good-sized bush are no mean object; but when the big berries assume their deepest colour as they do now, few plants are more showy. The spikes of fruit are 3 inches or 4 inches long and well held up above the leaves. The variation of fruit colour is also a feature which enhances the worth of the species for decoration. At present I have the black, scarlet and ruby-crimson fruited sorts in good form. I used to grow the white fruited kind, but lost it. I have had the coloured kinds several times sent me for the white. I have an idea that this berry-bearing Ranunculus formed in groups of the different colours would give rich effects in openings of the wild or woodland garden, say groups 10 feet or 12 feet in diameter and at distances far enough apart to distinctly maintain their individuality and yet not too far to allow all to be visible from several points of view.

Lathyrus maritimus is another British plant well worth the extra trouble of culture from the ready way in which it responds by a bright and showy florescence, coupled with a neat prostrate habit. The thick leaves, of a blue-green and somewhat symmetrically lobed, at once indicate a species of the Pea tribe, well fitted for many positions, especially the wall or rock garden. The numerous flowers are of a rich crimson-purple.

Enothera prostrata.—This slender and prostrate Evening Primrose has, compared with its other parts, good-sized yellow flowers and plenty of them, and also affords a long succession. Just now, however, the plants have another pleasing feature, the leaves being a warm brick-red and in some cases almost scarlet. It is true such leaf colouring cannot be relied upon, but still, to those who value leaf tints, it may be well to note the plants with a tendency thereto. I have had more than one, and very dissimilar, plant sent to me under this name. The true plant quite justifies its name and never grows higher than 9 inches here.

Campanula soldanellaeflora × carpatica.—I have just seen sprays of bloom of a plant got from this cross. It may be described as a glorified *soldanellaeflora* in its double form, but the colour is more refined and of a porcelain tint. I hope it may prove constant. In the meantime it is one of the loveliest of the Bellflowers I have seen, and the double feature in this case does not extinguish the bell form. The flowers are the size of a shilling across the bells, and last a long time when cut.

Primula Rusbyi.—This is now in flower with, at this late season, for companions only sikkimensis and capitata of the better-known hardy species. The flowers are large, with thin and delicate calyxes covered with farina ; colour

deep carmine purple, with a fragrance resembling that of our common l'rinrose. In every way it is in form a distinct species, and grown in comparatively few collections. There cannot be any doubt as to its hardiness, for I have kept it going with little or no care under hardy conditions for at least ten years. It is not, however, a fast grower, and though increased by root divisions easily enough, these may not be taken successfully unless they have a bit of root-stock and some roots.

Rhexia virginica.—A good piece of this is most attractive just now. The whole plant is suffused with red, more especially the stems. The bright rose purple cruciform flowers are numerous and lasting; hence the suitableness of its common name—Meadow Beauty. Why is it so soon seen? It is not only hardy, but in the bog garden in spongy peat it simply revels.

Primula capitata is now in good form, and has long kept up a succession of its violet-purple flowers; these are set off by the white escapes and white under surfaces of the wrinkled leaves. The perfume is delightful. It is easily raised from seed and not soon lost. I find half-starved plants of previous years, such as have not bloomed, very useful for either early or late flowering as the case may be. In August this species is a worthy representative of the earlier Indian species, and one of the few that help to keep the genus in evidence in late summer.

Aster Thomsoni.—A good form of this is worth half a score of the Starworts commonly found in gardens. The drawback is that it begins to bloom too early as a Michaelmas Daisy, and can only be classed because of another good property, e.g., flowering for three months in succession, as strong plants do. Already I have had it three weeks in bloom.

Prunella Webbiiana.—Plants I have under this name grow to, and flower at, a stature of 9 inches and 10 inches. The flowers equal in size those of grandiflora, but are of velvety texture and very bright carmine-rose. I have also seen the same plant under the name of *P. rosea*, and to make a guess, I should not be surprised if it were the same plant as *P. grandiflora rubra* of the "Kew Hand-list." Anyhow, it is quite the plant to note for half-shady places, where it flowers for many weeks in succession.

Origanum Dictamnus and *O. hybridum*.—These are winsome things just now. The happy arrangement of the flowers and their elegant pose, together with the bright red, give them that distinct effect which is almost unique. These plants should only be grown in warm, dry soils, and once established, left alone.

Rose Wichuriana.—This is a creeper to arrest the notice of the most casual observer just now. The profuse foliage fairly glistens, and the deep green foil close to the ground shows up the clusters of ivory white, small single flowers of surpassing sweetness. When the flowers are plucked, the reddish stems add to the effect of the bouquet. There are many uses for a free creeping Rose of this class, but nothing is likely to profit more by its introduction than the rock garden. Rock gardens where deep seams of good rich soil can be provided, and which are exposed to plenty of sunshine, are just the places for this ground rambler. To tie up the growths at all would be wrong, I think. The shoots strike out at right angles from the upright part of the collar, and the spaces between big stones soon become clothed in foliage and flower.

Woolville, Kirkstall.

J. WOOD.

Tufted Pansy Ethel Hancock.—This beautiful variety I saw in perfection lately in heavy soil in a Sussex garden. A mass of plants is growing luxuriantly and flowering most freely under a wall with a south-western aspect, having been removed to that position early in May last. The chaste character of the blossoms, which are of the purest white, with a rich orange eye, and possessing much substance, should ensure for this

variety extended cultivation. Being quite a new sort—in fact it was only distributed last spring—the sterling qualities are sure to become known in a short time. In those gardens where a first-class blue Tufted Pansy is wanted and one of dwarf habit no better variety could be grown.—D. B. C.

PURPLE CLARY.

(*SALVIA HORMINIUM*.)

The garden is beginning to look weary. On light warm soils Rhododendrons are drooping, the leaves of some of the deciduous trees in the shrubbery are yellow and withered, and under foot as one treads the paths there is a rustle of deadleaves. Despondently we murmur, "Summer has passed." In northern and western counties perhaps she lingers still, but in eastern and south-eastern districts drought has driven her from her haunts. Leaves are brown, shrubs shrinking as if from autumn's breezes, distant yet, still on their way. But what a blossoming spring and early-flowering summer we have had! While dwelling on the memory of those faded blossoms, a bee hums busily to the Mignonette, a dragon-fly in green and golden scale armour flies over the shallow fountain, and a blue heath butterfly alights on the imperial purple of the very plant I have selected to write about. Let me recommend the sweet old-fashioned *Salvia Horminium*, familiarly the purple Clary. The moment is *a propus* for lovers of garden flowers and gardeners to look round at the results of the summer bedding; to mark borders which have proved most brilliant, which groupings most effective, and which colours have toned in or contrasted most harmoniously. To these fellow labourers in pursuit of the earliest of arts may I suggest the merits of the purple Clary. (There is also, I know, a red Clary, but cannot speak personally as to its colouring.) The *Salvia Horminium*, then, is a humble member of a very showy and distinguished family. The lovely *Salvia patens* and many other favourites, hardy and half-hardy, are its congeners, but in habit it most resembles its relative the brilliant *Salvia splendens*. It is in the bracts of the *Salvia Horminium* that the beautiful purple of Tyrian dye displays itself. The flower is small, inconspicuous, but the richly hued bracts crown the plant with a rare beauty of colour seldom seen in the parterre, unless in the *Clematis Jackmani*. The growth of the plant is neat and pretty, in height about 12 inches or 18 inches, branching from base, the young shoots surrounding the centre in candelabrum form, and each young shoot carries its purple canopy, or rather flies its purple pennants. During the drought, when so many smaller beauties of the garden succumbed, when dark Roses scorched and pale ones refused to open their petals to the sun, when Calceolarias drooped and Verbenas quickly lost brilliancy, *Salvia Horminium* stood bright and erect with Pelargoniums and Marguerites revelling in the sunshine. This *Salvia*, a hardy annual, is capital as a summer bedding plant, effective grown alone or mixed with yellow and white Daisies, Calceolarias, scarlet, crimson or pink zonal Pelargoniums. The little blue butterfly loses no beauty as it rests on the purple bracts; indeed, I have seen a charming arrangement of *Plumbago capensis* and light blue *Delphiniums* well thrown up by sprays of purple Clary, intermixed with these shades of blue; the sprays, being of light and graceful form, give a finish to vase or basket of flowers as fronds of Fern or coloured foliage.

Seed should be sown early in March, preferably under glass, the young plants picked out and planted in rows 6 inches apart in bed or border exposed to the full sunshine or partly

sheltered. Although, as before said, this *Salvia* withstands drought, it is worth watering, naturally retaining its beauty and freshness longer under more favourable conditions. Two borders of purple Clary this year attracted more notice and admiration than any of those designed and filled with the ordinary recognised favourites. Novelty may have had something to say in the matter, but elegance and beauty more. I would suggest to gardeners who wish to try a similar effect and to plan some new or unusual arrangement to bestow next year a thought on the fair and hardy *Salvia Horminium*.

SUFFOLKIAN.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

ATRIUM 25.

THERE was another magnificent display on Tuesday last. We never remember to have seen a better during August, the one regrettable feature being the poor attendance of visitors. Such a show was well worthy of the attendance of hundreds of Fellows and others interested in horticulture. The only explanation that can be given is that people are now out of town. That such a fine show as this last should be so thinly attended is a pity. Even the committee tables were comparatively thin. It would be worthy of consideration, we think, another year whether it would not be advisable to hold the August and September meetings at Chiswick. It is a season when a visit to the gardens by anyone interested in horticulture would be most instructive and interesting, and the large conservatory would be quite large enough to hold all the exhibits. All the tables on Tuesday last were well filled. Orchids were abundant for the season, some really first-class things being chosen by the usual well-known judges. Fruits too were very abundant, amongst which a few of the best exhibits were the large collection of first-class Peaches, Nectarines and Plums from Windsor, apparently all from the open walls, and the very representative collection of all kinds of outdoor fruits in excellent variety and condition from Syon House. Some finely-coloured Peaches and Nectarines were sent from Eastwell Park, Ashford, Kent. A grand assortment of Plums in the best kinds and of high-class quality was staged by Messrs. Veitch and Sons, forming a most instructive exhibit. Of Grapes, which are not often shown in quantity, there was an excellent display, the chief of which, well ripened and finished fruit, came from the Chiswick gardens. Three other exhibits of Grapes deserve special note, viz., the huge clusters of Muscat Hamburg from Cockham, the Madresfield Court and Gros Maroc from East Molesey, and the singular, but highly flavoured Ferdinand de Lesseps from Osberton. Prominent amongst those sent from Chiswick were Muscat Hamburg, Madresfield Court, Muscat of Alexandria and the seldim seen, but none the less excellent, Black Monukka, of which huge clusters were shown.

The floral committee exhibits claimed by far the greater space. The Messrs. Veitch and Sons had a good display of Nepenthes arranged in excellent taste with light Palms, &c., the gold medal being most deservedly awarded. Messrs. H. Cannell and Sons had a grand bank of Asters in great variety, both as regards colour, form, and habit; several bunches of a sort were shown, the whole forming one of the best exhibits of Asters ever staged. Another lot, arranged informally, came from Messrs. Dobbie and Co., these, too, consisting of good selections. Lilies in the best late kinds came from Messrs. R. Wallace and Co., and Dahlias from a few well-known growers.

Orchid Committee.

A first-class certificate was awarded to—LELLO-CATTLEYA BEYMERIANA.—The result of crossing the natural hybrid L.-C. emanda with

the pollen of *Cattleya Warscewiczii* (*gigas*). The plant carried a raceme of five flowers, which bore a striking resemblance to those of a fine form of the tall-growing variety of *Cattleya maxima*. The sepals and petals are rose, veined with a darker shade; the lip rose, veined and suffused with crimson-purple, the throat lined and suffused with yellow, shading to a deep pink at the top. It is a lovely Orchid, and worth a place amongst our finest hybrid Cattleyas. From Col. Brymer, Dorchester.

Awards of merit were given to the following:—

MILTONIA SCHREDERIANA. — A distinct and beautiful species, the sepals and petals greenish yellow, thickly spotted with brown; lip white in front, shading to a bright purple on the basal half. The bulbs and habit of the plant resemble those of *Odontoglossum Harryanum*. From the Hon. Walter Rothschild, Tring Park.

CYCNOCHES MACULATUM. — A variety somewhat resembling *C. pentadactylon*. The petals are green, thickly spotted with dark brown, the upper sepal similar in colour to the petals, the two lower sepals green, tinted on the lower sides and heavily spotted with brown; lip white, with a strong, prominent bristle-like processes in the centre. From the Hon. W. Rothschild.

DENDROBON LONGICORNIS. — An old and well-known species with white sepals and petals; lip white, lined with orange-yellow. The specimen exhibited upwards of sixty flowers. From Mr. W. Thomson, Walton Grange, Stafford.

MILTONIA CANDIDA BIFLORA. — This is also a well-known species which had not previously been certified. The plant exhibited was remarkable for good culture and bore three spikes of flowers. The sepals and petals are deep brown, margined and mottled with yellow; lip white, with a violet centre shading to white at the base. From Major Joicey, Sunningdale Park.

STANHOPEA EBURNEA. — A fine species, with broad creamy white sepals and petals; lip ivory-white, spotted and shaded with brown in the centre and at the sides. The plant carried two flowers. From Major Joicey.

LEELIA MONOPHYLLA. — A well-known, dwarf growing, cool house species with brilliant orange-scarlet flowers. It had previously received a botanical certificate. From Major Joicey.

Botanical certificates were given to *Culogyne Micholitzii*, a distinct species introduced some years ago by Messrs. Sander; sepals and petals cream-white, lip white in front, the side lobes and remaining parts of a bright reddish brown (from Mr. T. B. Haywood, Redgate); and *Catasetum calceolus*, a distinct small-flowered species, with dark brown sepals and petals; lip bright green, shading to yellow in the centre, and having a bright yellow disc. From Messrs. H. Low and Co.

Messrs. Hugh Low and Co., Clapton, were awarded a silver Banksian medal for a varied and interesting group, prominent in this being some finely flowered plants of *Saccobium celeste*, with its pale blue-tinted sepals and petals and deep violet coloured lip, several fine plants of *Cynchos chlrorhizon*, some finely flowered specimens of *Miltonia Morelianiana*, a fine variety of *Cattleya lueddemanni*, a fine deep rose *Laelia* (*coccinea*), with deep rose sepals and petals, lip crimson, veined with white in the throat, and several plants of the lovely *Dendrobium formosum giganteum*. Messrs. B. S. Williams and Son sent *Brassia brasiliensis*, with cream coloured flowers spotted with dark brown. Messrs. J. Veitch and Sons sent *Laelio-Cattleya Clonia*, the result of crossing *Cattleya Warscewiczii* and *Laelio-Cattleya elegans* *Turneri*; sepals deep rose, veined and splashed with purple at the tip; the lip purple in front shading to crimson in the centre, the side lobes purple shading to white, having a slight indication yellow in front of the throat. Messrs. F. Sander and Co. sent *Laelio-Cattleya Gototiana*, a supposed natural hybrid imported with *Laelia tenebrosa*; sepals and petals rose, lip crimson purple, with two white blotches in the throat. Mr. J. Gurney Fowler, South Woodford, was awarded a silver

Flora medal for a group, prominent in which were several fine plants of the lovely *Dendrobium Phalaenopsis* in a variety of colours, *Catasetum Bungertii* with three flowers, several well-flowered plants of *Dendrobium formosum*, a fine plant of *Cattleya Harrisonii* with four spikes of flower, *Stanhopea Calceolus*, a distinct small yellow-flowered variety with two flowers, and a plant of the lovely *Cypripedium Lawrenceanum* *Hyacinthoides*. *Pachystoma Thomsonii* was represented by one of the finest flowered plants we have seen of this rare Orchid. It bore four spikes of flower, the sepals and petals white, lip violet-purple, striped with white on the sides, bases green, heavily spotted with brown. Several other *Catleya Dowiana aurea*, a fine-flowered dark form of *Miltonia Roccelli*, *Cattleya Fowleriana*, certified last year, and a fine plant of the beautiful *Aerides Lawrenceana* with two fine spikes completed this collection. Sir T. Lawrence sent a small group, prominent amongst which were some remarkably well-grown plants of *Habenaria carnea* and its variety *nivosa*. *Epidendrum Fournierianum*, with pale yellow sepals and petals, lip white with violet markings on the centre, *Epidendrum alatum*, and cut flowers of *Maxillaria furcata* and *Saccobium Blumei majus* were also shown here. Mr. W. Thomson sent a fine plant of *Laelio-Cattleya elegans* *Cavenbergiana*, certified and described in our report of the last meeting. The plant carried two spikes of flower and was remarkably well grown. *Odontoglossum crispum Annie* is a fine form, sepals white, tinted rose and spotted with brown; petals pure white; lip white with a large brown blotch in the centre. Major Joicey sent *Stanhopea Amesiana*, a fine plant of the white *Anguloa eburnea*, and a well-flowered plant of *Odontoglossum apidorhenum*. Mr. T. Statter sent *Laelio-Cattleya elegans Johnsoni*, a broad-lipped form of the Turneri section; L. C. e. *Stateriana*, with white-rose tinted sepals and petals similar to the variety *Schilleriana*, and a two-flowered spike of *Cypripedium excisum*, one of the *Rothschildianum* crosses certified last year.

Floral Committee.

Awards of merit were adjudged to the following:—

BEGONIA LOTUS CLOSON IMPROVED (Rex section). — A decided advance upon the type, with much bolder foliage of a greenish purple, with a zone of red roses, the reverse being of a crimson red, a fine decorative plant. From Messrs. Laing and Son, Forest Hill, H. S. E.

CALADIUM DONNA DAHLIA MACHACO. — A very distinct variety in every respect, with a sturdy habit of growth, the foliage being of a brick-red colour, with deep green veins throughout to the margins of the leaves—very novel. From Messrs. Laing and Sons.

CACTUS DAHLIA MISS WEBSTER. — The best white *Cactus Dahlia* yet shown with large flowers of good form, a useful garden plant and a good exhibition flower. From Messrs. Dobbie and Co., Rothesay.

ROSE MRS. RUMSEY (H.P.). — A beautiful bright pink, the flower full and of good size, with imbricated petals. On the best authority this Rose is stated to be proof against mildew; its foliage is certainly very leathery and the habit extra sturdy. From Mr. Rumsey, Witham Cross, N.

GLADIOLUS ATLAS. — A light mauve with purple veins on the lower lobes, the individual flowers of extra size and the spikes of unusual length; very distinct and fine. From Sir Trevor Lawrence, Burford Lodge.

GLADIOLUS FESTULLA DE COULANGER (Lemoinei section). — A rosy salmon of very fine form, with the looks of great breadth, the lower ones having a distinct blotch of creamy white. From Sir Trevor Lawrence.

LOBELIA CARDINALIS CARMINE GEM. — A soft carnal form of this well-known plant, with its other good qualities. From Sir Trevor Lawrence.

CAMPANULA BROTHMII (C. carpatica alba × C. isophylla alba). — The name given to this hybrid well defines its freedom of flowering, the

example shown being one mass of bloom. The colour is a pale blue, which is singular, considering that both its parents have white blossoms. As a rock plant or for massing it will no doubt prove to be a decided acquisition. The growth is very dwarf and compact. From Mr. E. H. Jenkins, Forest Hartman.

A very noteworthy exhibit was a fine collection of *Nepenthes* shown by Messrs. Veitch and Sons. The plants were of good size, in splendid condition, and bearing their beautiful and curious pitchers in great profusion. Among the many species and hybrids were excellent examples of *N. Amesiana*, a very handsome plant; *N. Chelone*, *N. Curtisi*, the pretty *globularia*, *N. Hookeriana*, *N. mixta*, and *N. mixta sanguinea*, both fine plants, brilliant in colour; *N. formosa*, and *N. Mastersiana*, also finely coloured. The staging of the collection was admirable, a light and effective background of Pains and Maples, with a groundwork of Maiden-hair Fern and light *Dracaena* giving a very beautiful setting to the handsome pitcher (gold medal). A small collection of fine-leaved plants was shown by Messrs. Laing and Sons, including some most colour new *Begonias*, among them *Alba magnifica*, a variety with huge leaves of dull pale green colour, and *Attraction*, a very beautiful plant, a mixture of bronze, bright green, and silver. A large group of herbaceous flowers and Dahlias came from Mr. T. S. Ware, of Tottenham. Among the Dahlias were one or two very beautiful blooms of *Bertha Mawley*, some good flowers of *Gloriosa* and *Purple Prince*, with Arthur West, *Crinum King*, *Phœbe*, and *Eurydice* among the pompons. conspicuous among the herbaceous flowers were *Echinacea purpurea*, *Centaraea macrocephala*, and some beautifully tinted bunches of *Eryngium Oliverianum* (silver Flora medal). A similar exhibit of hardy herbaceous stuff and Dahlias came from Messrs. John Peed and Sons, Roupell Park Nurseries, Norwood. The best of the Dahlias were *Bertha Schwedler*, Mrs. Barnes, Professor Baldwin, Baron Schroder, Countess of Radnor, and Matchless. The bunches of cut flowers comprised good examples of *Frangula ramosa*, *Helianthus rigidus*, *Veronica longifolia*, and *Aconitum pyramidalis* (silver Banksian medal). A group of cut flowers, comprising many very lovely varieties of *Lilium* and *Gladioli*, came from Messrs. Wallace and Co., of Colchester, and made a very brave show. *Lilium speciosum macranthum* was very nice, while *L. tigrinus* spider, *L. Leichtlinii*, a very charming yellow variety, *L. candidum* sp. nov., and the richly coloured *L. speciosum Malmense*, and *L. Henryi* were all well represented. The best of the Gladioli were *George Paul*, a shapely flower of dull crimson; *Mrs. Beecher*, a vivid scarlet; and *Victor Hugo*, a rich, but delicate salmon-pink (silver Banksian medal). From Messrs. Dobbie and Co., Rothesay, came a fine collection of *Aster*s, arranged in loose, unconventional handfulls, and forming a very effective bank of colour. The following varieties were well shown: *Victoria*, a lovely pink flower of splendid form and good habit, and *Princess Rosalind*, a new variety, bright pink in colour. A very delightful strain is *Dobbie's Peony-flowered*, very useful for cutting. The colours are rich, pure, and varied. Another strain of great beauty is the *Giant Comet*, comprising white or light pink flowers, which somewhat resemble Japanese *Chrysanthemums* in form and petal. From the same firm came an exhibit of their new white *Cactus Dahlia Miss Webster*. This flower is certainly the finest white yet in cultivation, and is of fairly good *Cactus* form (silver Flora medal). A magnificent exhibit of *Aster*s came from Messrs. Cannell and Sons. The flowers were primly staged in triangular bunches, every bloom being thus distinctly displayed. Among the many superb varieties the following may be noted: *Big Rock*, having a very pleasing pink terra-cotta colour; *Princess of Wales*, a pink and white quilled variety; *Eynsford Yellow*, and *Mignon*, a truly lovely pale azure-blue. A fine collection of the lovely *Comet* strain and an equally good selection of *Victoria* completed

the collection (silver gilt Flora). Sir Trevor Lawrence sent a group of remarkably fine Pentstems and a few Gladioli. The blooms of the Pentstemons were of great size and beautifully coloured. The best Gladioli were Festucae de Coulanger, Rosa Bonheur, Atlas, a delicate lily flower, and General Duechesne. A group of cut flowers comprising Stocks, Pansies, and Begonias, was shown by Messrs. Young and Dobinson, Stevenage, Herts. The Pansies included some very beautiful varieties (Banksian). From Mr. Walters, Eastwood Park, Ashford, Kent, came a few pretty varieties of Gloriosas. The blooms were of good size and substance and well coloured. A pretty new Coleus, Golden Feather, was shown by Mr. A. Marcham, Springfield Nursery, Isleworth. This plant is of a delicate golden-yellow colour, dwarf in habit, and bushy. From Mr. Becker, Jersey, came a new giant type of the Jersey Lily, a very tall flower-spike, bearing good, nice pink flowers. A new single Comet Aster, named Marguerite, pure white, was shown by the same grower. This flower would be pretty for roses. Mr. T. W. Girdlestone, Sunningdale, Berks, sent six new single Dahlias all good varieties. Ginkgo, a dull yellow with crimson at the base of the ray florets; Folly Eccles, buff and yellow; Splash, yellow and crimson; and Trilby, maroon shading to carmine, were the best.

Fruit Committee.

Some very fine collections of fruit were staged before this committee, those from Chisleigh, Frogmore, and Syon occupying much space. In the two last, Peaches and Nectarines were largely shown. Grapes were also very fine, and the competition for Messrs. Veitch's prizes for Apples and Pears was very strong.

An award of merit was given to—

PEA GLASTONBURY. A wrinkled variety, much like Supreme, but larger. There were from eight to ten peas in a pod, the last slightly curved. This has been on trial at Chiswick, and was given three marks in July. From Mr. W. G. Holme, seed merchant, Tain, N.B.

Messrs. J. Veitch and Sons, Royal Exotic Nursery, Chelsea, staged 100 dishes of fruit, consisting of Plums, Pears, Apples, Cherries, with a dozen Fig trees in pots well covered with fruit. Of the Plums, some fine fruits were staged, the most notable being Kirke's, Jefferson, Oulin's and Transparent Gages, McLaughlin's and Green Gages, Goliah, and Sultan, with very fine Angelina Burdett and Magnum Bonum. There were over thirty varieties of Apples, mostly early kinds, the best dessert kinds being Golden Pipkin, Irish Peach, Quarrenden, Duchess Favourite, and Oslin. Cooking kinds were very good, Lord Suffield, Cellini, Grenadier, Lord Grosvenor, Wealthy, and other of the Codlin type being the best. The best Pears were Williams', Clapp's Favourite, Louise Bonne, Gratioli of Jersey, and Dr. Hogg. The Figs were Negro Largo, O-borneo's Prolific, Bourjassote Grise, and Marmande (silver-gilt Knightian medal). From Her Majesty's Gardens, Frogmore, Mr. Thomas sent some fine dishes of indoor and hardy fruits. The best Peaches were Violette Hâtive, Dymond, Barrington, Belgrave, Goliath, Royal Noblesse, and Royal George. The best Nectarines were Humboldt, Erluge, Spenser, Handwick, and Adonis. Plums comprised most of the varieties in season, Kirke's, Jefferson, Belle de Louvain, Washington, and Goliah being very fine (silver-gilt Knightian medal). From Earl Percy's gardens, Syon House, Brentford, Mr. Wythes sent fifty dishes of hardy fruits from open walls, a dozen varieties of Peaches, ten varas. of Nectarines, with Plums, Pears, Figs, and early Apples. The best Peaches were Dymond, Barrington, Belgrave, Grosse Mignonne, Royal George, and Falcon. The Nectarines, Humboldt, Pine-apple, Dryden, Lord Napier, Rivers' Early Orange, Spenser and Erluge were well coloured. The Figs (Nebian) was good. Apples Lady Sudeley, Duchesne, Worcester Pearmain, Quarrenden, Wealthy, Lord Suffield, Mank and Keswick Codlins were fine. There were

also good Morello and Kentish Cherries, Mulberries and Apricots (silver Knightian medal). Some remarkable bunches of Grapes came from Mr. Elliot, Hurst Side Garden, West Molesey, the varieties being Gros Maroc and Madresfield Court. It is pleasing to see such fine examples, which well deserved the silver Knightian medal awarded. From the society's gardens came a very interesting collection of Grapes, Pears and Plums. The Grapes comprised Madresfield Court, Muscat of Alexandria, Black Prince, Mrs. Pince, Golden Hamburgh, Foster's Seedling, Gros Maroc, Muscat, Hamburg, Black Muscat and Monukka. There were also some very good Souvenir du Congrès Pears, Gladstone Peach was also very fine. From Eastwell Park Mr. Walters sent fifteen dishes of Peaches and Nectarines, excellent samples of Sea Eagle, Princess of Wales, Grosse Mignonne and Noblesse Peaches being staged, with large fruits of Erluge, Pine-apple, Humboldt and Galopin Nectarines (bronze Knightian medal). From Mr. Day, Galloway House, Garliestown, N.W., were sent eighteen dishes of Plums and some Peaches (Grosse Mignonne being good), with several varieties of Plums and Lord Napier Nectarines (bronze Knightian medal). Messrs. Spooner, Hounslow, sent thirty-six dishes of Apples, some Plums and Pears. There were excellent Duchesse Apples, Worcester Pearmain and Cellini, but we fail to see what use it is to show such fruits as Alfriston and late keeping Apples at this season (bronze Banksian medal). Mr. Dennis, Bracknell, sent excellent Muscat, Hamburg, Grapes, good in berry, bunch and colour, well meriting the bronze Knightian medal awarded. From the society's garden came Grape Antonia, a black variety similar to Alicante, but not of first-class flavour. Mr. Becker, Jersey, sent a very fine dish of his currant, the Comet. This is a very fine red and received an award recently. From the same source were sent Pear Dr. Jules Guyot, an early one by Bon Chrétien, and a new Apple, Jersey Beauty, somewhat like Manke's Codlin. From Mr. Thomas, Frogmore, came a new Plum, Windsor Early, after Jefferson in colour and shape, but lacking in flavour. From Messrs. J. Veitch and Sons came a new Plum, Webster's Gage. Mr. McIndoe, Hutton Hall, Guisborough, sent his new Plum, Burbank, which was shown in a green or growing state a month ago. Messrs. J. Veitch and Sons had a new Apple, Antonine, probably a Japanese kind, and though of nice appearance, not considered worthy of an award. From Messrs. Johnson, Driffield, came a seedling Apple somewhat like Blenheim Orange, but not ripe. Melons were shown in quantity, but none were considered worthy of an award. Mr. Findlay, Maresfield Court Gardens, Uckfield, sent Peach Maresfield Park Seedling, very much like Barrington in shape and colour, but not considered to be an improvement on some of the older kinds.

Vegetables were not largely shown. Messrs. Harrison, Leicester, sent some winter varieties of Beans—Canadian Wonder and Long-podded Negro were fine, the best of the others being Mohawk, Pale Dun, Sir J. Paxton, No Plus Ultra, Best of All, and Harrison's Dwarf. Mr. Veitch, Exeter, sent a new intermediate Apple, a very fine selection, and Mr. J. Clark, Abbey Wood, Kent, sent Tomato Abbey Wood Crimson. Mr. Young also sent Tomato Eclipse, a fine variety which recently received an award in the Chiswick trials.

For Messrs. Veitch's prizes no less than nineteen competitors staged Pears. Mr. G. Norman, Hatfield House, was first with superb Beurré de l'Assomption; second, Mr. Geo. Wythes, Syon, with very fine Williams' Bon Chrétien. For Apples, Mr. Colville Brown was first with grand Worcester Pearmain; second, Mr. Wythes with Duchess Favourite, fourteen competitors staging in this class. Staging these exhibits and the fruit for certificates on a separate table is a step in the right direction.

The lecture on "Forcing Lily of the Valley," by Mr. Jannoch, the well-known cultivator of

this flower, was read by the assistant secretary. The paper was an exceedingly valuable epitome of the methods of culture requisite for success. In speaking of the propagation of crowns he said, in forcing, Mr. Jannoch said that they must not do well in cold and heavy soil. They must be previously well prepared by being deeply dug and well manured, and autumn planting is to be preferred. The crown should be planted in rows 7 inches or 8 inches apart, the tops level with the surface of the ground. It is three seasons before the crowns will be fit for forcing, though by good cultivation many can be used after two years. If the crowns are three years old when first flowered they will bloom every other year, but they must have a period of rest before being started. Those that have been grown in light and sandy soil are the best. When planted, plunge them into a bed of, say, coco-nut fibre. Keep them quite in the dark. At starting the temperature should be 80°; after a few days this can be increased to 95°, but it should never fall below 80° or exceed 100°. An even, constant temperature is most important. The actual period of flowering can be retarded by removing to a lower temperature, which must be steady and constant. If temporary frames are placed over Lily of the Valley out of doors, the flowering period will be hastened by two weeks. In planting for forcing the flowers cannot be improved by using good soil or giving much water &c., as all the required movement is in the roots and has been obtained before hand. Thus disturbance of the roots or exceedingly poor soil will scarcely affect the quality of the blooms. Flowers may in the growing stage be sent long distances by post simply packed in damp moss without being damaged. For forcing, the Berlin form is best, especially before Christmas. The Hamburg and Dutch forms are also good. Retarding and delaying the period of flowering have now been very successfully adopted, but the movement is still in its infancy.

Mr. Weathers said that early this year he saw Lily of the Valley grown in an ordinary tin cistern. The crowns were placed in the bottom with some water. Complete darkness was secured to them. They were heated from below by an oil lamp or stove, and flourished very well.

NATIONAL CO-OPERATIVE FLOWER SHOW.

The eleventh annual meeting of this flourishing institution was held, as on former occasions, at the Crystal Palace on August 21 and 22. Taken as a whole, it was a most remarkable exhibition of horticultural produce, the quality of the productions being of unusual excellence, whilst the competition was exceedingly keen in the majority of the classes. The arrangement, too, was all that one could wish, the usual tables in use at the Crystal Palace being employed. Some idea of the extent of this exhibition may be gleaned from the fact that, in order to inspect all of the exhibits, more than a mile would have to be walked alongside of the tables. The entries continue to increase year by year; this year the number nearly reaches 4250. Over 1000 of these were for flowers and the rest for fruits and vegetables. A new feature—introduced by Mr. Edward O. Greening (American)—was seen for the first time this year—classes for photographs of gardens as follows: viz., for the best workman's town garden, the best cottage's country garden, the best workman's or cottager's window garden or floral porch, and the best background or corner rendered beautiful by floral ornament. Over these four classes the sum of £10 was distributed as prizes. Such a step as this deserves every possible commendation and encouragement. It is in the right direction, being not only instructive and interesting, but at the same time suggestive of future advances. The competition, it is a pleasure to note, was very keen, there being no less than 200 entries in these classes alone, many of those not receiving any prize being well worthy of recognition.

The flower classes were well filled throughout, hardy flowers being a great feature. Of these, hardy annuals are in considerable favour, Stocks, Asters, Marigolds, Mignonette, &c., being shown in profusion both as pot plants and in a cut state. The table decorations displayed considerable skill and taste, a decided improvement being manifested. In the fruit classes there were several good collections of fruit chiefly from gentlemen's gardens, some good stands of Grapes coming from the same sources, whilst such as Plums and Apples were most plentiful throughout the exhibition.

The competition was keenest in the vegetable classes, wherein the best of the amateur growers held their own well against the gentlemen's gardeners, even those of exhibition fame. These classes betokened most praiseworthy excellence, quality being a notable feature. The size was perhaps in excess of what is usually seen in gardens, but it must be borne in mind that it is conceivable in such a show as this. The Scarlet Runner and French Beans, the Onions, the Potatoes, the Tomatoes and the Carrots were all worthy of the best gardens in the country.

NATIONAL VIOLA SOCIETY.

A GENERAL meeting of the members of this society was held in the Guildhall Tavern, Gresham Street, E.C., on Wednesday evening last to consider a communication received from the secretary of the Viola conference executive relative to the amalgamation of the two bodies. Dr. Shackleton occupied the chair. The secretary (Mr. A. J. Rowberry) then read the minutes of the first general meeting of the society, which were confirmed. A letter was then read which the secretary had received from Mr. J. B. Riding, the recently appointed secretary of the Viola conference executive, which was as follows:—

At a meeting of the executive of the Viola conference, held at 37, Southampton Street, Strand, on August 19, I was instructed to communicate the following resolution to you as hon. sec. of the National Viola Society: I trust you will endeavour to bring the matter before your committee at an early date. "The executive of the Viola conference desire to suggest to the National Viola Society that the latter body should carry on the work of the conference in future and that they be requested to settle the matter as soon as possible, so that the work of issuing the report of conference and other matters be taken in hand at once."

Several of the members present expressed their opinion with reference to the desirability of an amalgamation of the two bodies, surprise being generally manifested at the news of the two bodies being independent one of the other. It was ultimately resolved, on the motion of Mr. D. B. Crane, seconded by Mr. Leonard Brown, "That after hearing read the contents of the letter from the secretary of the Viola conference executive, this meeting of the members of the National Viola Society hereby declares its willingness to amalgamate with that body, and to carry out in addition to its own objects the work hitherto recognized by the Viola conference executive." Upon this being put to the meeting the resolution was carried unanimously. The question of a trial at the Royal Botanic Garden next year was touched upon, and a sub-committee appointed to carry out their sub-committee to consider of these bedding Pansies. It is taller and stronger growing than many and much less tufted. Its bold and showy blossoms are produced on very strong, stout stems about 6 inches high, and the intense almost indigo-blue of its flowers is very effective.

Tufted Pansy Archie Grant.—For late summer display this is perhaps the showiest as well as the boldest of these bedding Pansies. It

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much less tufted. Its bold and showy blossoms are produced on very strong, stout stems about 6 inches high, and the intense almost indigo-blue of its flowers is very effective.

Sedding Pentstemons.—Some very fine forms of the valuable border flower were shown by Mr. B. Sedding (member to Sir Trevor Lawrence) at the last Drill Hall meeting. Both the spikes and the flowers were very remarkable for vigour and size, whilst the colours were distinct and varied.

These were all raised from seed sown on February 10 of the present year.

Erigeron mucronatus.—This is almost per-

petual flowering. I have a specimen in a pot and

stood in a vase outdoors, where it has been a sheet

of bloom the whole summer through, and even

secretary briefly reported on the annual excursion of the members to Lord Aldenham's in July last, and stated that it was successful from a financial as well as from a numerical point of view. Mr. Hicks having resigned his seat on the general committee, Mr. Ingamells was elected to fill the vacancy. Forty-two new members were elected and five societies admitted into affiliation, including one in Germany, viz., the Hamburg Chrysanthemum Society. The secretary submitted a rough financial statement, which was considered to be of a satisfactory and encouraging nature.

NOTES OF THE WEEK.

Liatris spicata is one of the most distinct border flowers at the present time, its dense, columnar spikes of rosy mauve flowers in a cluster being sure to attract attention.

Carnation King Arthur.—One of the grandest of all the self scarlet Carnations of the border class is this one, a bold and striking flower of a crimson-scarlet hue. Though large in size the calyx is all one could desire.

Lobelia Carmine Gem.—This is very distinct shade in the syphilis section of these flowers, and, as shown on Tuesday last at the Drill Hall by Sir Trevor Lawrence, marked a decided gain in these useful border plants.

Dahlia Miss Webster is a Coete Dahlia of a very fine type, with flowers of large size and snowy purity. It was shown at the Drill Hall on Tuesday in a natural manner with buds, a noticeable feature being the stiff stems that supported the blooms.

Senecio Galpini is a very distinct species recently seen in flower at Kew, with flower-heads of a rich orange and tufts of glaucous and almost succulent leaves. The plant was flowering near No. 4 greenhouse in one of the narrow borders adjacent thereto.

Helenium grandicephalum striatum.—This is at least a distinct form, though, considering its colour and the comparatively small size of the flowers, it is not a very showy plant. It is, however, a strong grower and soon forms a big bush 2 feet high that makes it a telling subject among shrubs.

Echinacea purpurea.—At the Drill Hall on Tuesday Mr. T. S. Ware had a fine group of cut flowers of this his own perennial. The individual flower-heads, too, were very large, indicating good culture, for which this handsome border perennial amply repays. At this season it is certainly amongst the very finest of border flowers.

Aster longifolius formosus.—The masses of bright rosy lilac flowers produced by this plant are worthy of attention from those who group such things in the garden. The dense compact bushes are less than 2 feet high when the plant is moved annually, and at this height are simply covered with pleasing masses of flowers.

Tufted Pansy Archie Grant.—For late summer display this is perhaps the showiest as well as the boldest of these bedding Pansies. It is taller and stronger growing than many and much less tufted. Its bold and showy blossoms are produced on very strong, stout stems about 6 inches high, and the intense almost indigo-blue of its flowers is very effective.

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Erigeron mucronatus.—This is almost per-

petual flowering. I have a specimen in a pot and

stood in a vase outdoors, where it has been a sheet

of bloom the whole summer through, and even

now shows no sign of exhaustion. It has been occasionally fed with a little weak manure water. For this purpose it is most useful. It seeds freely, coming up in the pots and sometimes on the borders.—J. M., Charnouth.

Eucryphia pinnatifolia.—Near the large succulent house at Kew is a small bed of this valuable summer flowering shrub. It is just possible that in a season more genially moist and favourable to growth such things, even at Kew, would present a far better front than is now the case. The large snowy blossoms and distinct foliage render it one of the best of shrubs flowering at this season of the year when the majority of such things are past.

Quilled Aster Yellow King.—Messrs. Kelly and Son, Langport, send us some fine flowers of this new form of Quilled Aster, the flowers pale yellow, full, and beautifully quilled. Many years ago these quilled Asters used to be largely grown, but of late years we have not seen them so often. Of Betteridge's strain, which at one time used to be very largely grown, there were many beautiful varieties, and no doubt in some gardens some of these are still to be found.

Aster Amellus bessarabicus.—Among the early Aster now in flower, and therefore too early to properly be grouped among the so-called popular Michaelmas Daisies, this is one of the best and most serviceable, and, whether associated with other things or in beds nearly or wholly devoted to it, is very pleasing. A good bed can be made with this plant and *Anemone japonica alba* as a centre, the two plants flowering together and profusely for a long time. Scarcely more than 2 feet high in ordinary seasons, the Aster with its much branched habit of growth makes a capital display.

Thunbergias.—I quite agree with all "R. D." says of these pretty and useful plants. I am never without a few of the orange with dark eye variety—my favourite. I have never seen the blue kind he speaks of. He calls them annuals, but they are really perennials. If gradually dried off in the autumn sufficiently to cast their foliage and wintered in an intermediate temperature, not allowing them to get dust-dry, on the return of spring, by a little heat and moisture, they break strongly and bloom long before seedlings. I have kept them thus three years, but it is as well perhaps to discard them after the second year.—J. M., Charnouth.

Senecio pulcher is one of the handsomest of all summer and autumn perennials, producing freely its large rich-coloured blossoms of a magenta-purple hue. These are so rich and telling in the garden as to make it desirable to extend the season of flowering to its utmost extent. This is best done perhaps by raising a few plants each year from root cuttings, and by potting them into 5-inch pots they may be grown in frames till the following February, and then planted out in good ground. Treated in this way the old plants in the border would bloom first, and the spring-planted ones give a succession of their handsome and distinct flowers. The plant is well worth the trouble this involves to secure an extended season of bloom.

Asclepias tuberosa.—Far too rarely seen is this brilliant autumn flowering perennial, yet it is certainly one of the most striking of autumn flowers. Though not a difficult plant to grow, it is by no means an easy matter to secure large specimen plants. Lack of knowledge possibly as to its exact requirements may to some extent account for this, for the plant appears to be only well suited to very warm sandy soil. Quite near the sea-coast in spots where the soil is very sandy the plant is more happy, and in such places is worth growing freely. On clay soils the plant is rarely satisfactory, and usually becomes a victim to slugs in winter. The plant grows about 2 feet high when well established, and produces terminal corymbs of a bright orange hue.

Amaryllis belladonna gigantea.—Under this name a couple of monster bulbs—each bear-

ing two fine scapes, with many flowers of a rose pink hue—were exhibited at the Drill Hall on Tuesday. The only distinction noticeable to justify the varietal name employed above was a rather taller growth, as we have seen many varieties with flowers more than twice as large, of exactly the same colour as those shown. By way of justifying the name "gigantea," a wretched little plant with only one flower spike, exhibiting the type of comparison, by no means a representative flowering example of this fine bulbous plant. Four years past there has been a truly sumptuous display of this Amaryllis in many beautiful varieties, scarcely any two being alike, while all were charming in the extreme.

Tigridias are now among the showiest of bulbous plants, and though all too evanescent there is a rich profusion of buds that makes up for this. Fully expanded in the mid-day sun some of the varieties are gorgeous in their markings, while others are equally noteworthy for their chaste and in some instances almost delicate shades. Given rich soil, then they always please, and they take up so little room that a few that should always be planted each year. By inserting them amongst the spring flowering subjects they presently fill what otherwise would have been a gap in the border. They are also very charming for association with Galtonia candidans. A mixed bed of Tigridias planted rather thinly is very beautiful, springing from a bed of mossy Saxifrage.

The blue *Didiscus* (*Didiscus ciliolatus*)—We have just received from Mr. Ernest Bound, Strawberry Hill, some flowers of this uncommon, but pretty half-hardy annual, a native of New Holland. It grows to a height of from 18 inches to 2 feet, the stems erect and much branched, each terminated by a fat umbel of small, pleasing blue flowers produced plentifully from August to October. Being half-hardy it requires rather careful treatment, as it is when young rather impatient of moisture. The seed should be raised in a gentle hotbed, transplanting the seedlings in May to a warm, well-drained position. This plant will also be found useful for the greenhouse or conservatory, sowing the seeds two or three in a pot and transferring the seedlings to pots a size or two larger, in which they may be allowed to flower. It is also known as *Trachymene ciliolata*.

Wild flowers in decoration.—At the Reading flower show on August 29 a set of stands arranged with wild flowers and foliage was shown, and possessed quite unusual merit, both from the point of view of arrangement and of the selection of material. The arrangement was admirable, light, graceful, well-balanced, and not overcrowded. But the principal charm lay in the exquisite harmony of the colours used. The principal flowers chosen were the pretty deep lilac heads of the Greater Knapweed (*Centaurea scabiosa*) and an effective variety of the yellow Hawkweed (*Hieracium*). A quantity of very beautiful wild grasses was used, and splendid results were obtained by richly tinted foliage. The best things here were brightly coloured young Oak shoots, golden fronds of the common Bracken Fern (*Pteris aquilina*), red Bramble leaves, and long trails of Convolvulus with their leaves turning yellow and reddish-brown. These stands were a good example of what can be done with the commonest and most easily obtainable materials at the expenditure of a little trouble and thought.—L. H.

Oncidium Lanceanum for cutting.—This in my opinion is one of the finest autumn-flowering species we have, and one of the easiest to cultivate, if care be taken not to allow the temperature of the house in which the plants are growing to fall too low in winter. With the plants increase in size each season and flower most profusely at this time of the year, as you will see by the spike accompanying this note. The plants are grown in baskets which are suspended from the roof, in which position they seem to be at home. They require plenty of water during the growing season and to be shaded from the sun. After the

flower-spikes are developed much less water will suffice, but at no time are the plants allowed to become dry. During winter the temperature ranges from 60° to 65°, while in summer the Dendrobiums house suits it well.—H. C. P., *Buxted Park, Uckfield*.

* Accompanying this note were two hand-spike of a richly-coloured variety of this beautiful Orchid, the flowers of which have a rich spicy odour, reminding one of that of Vanilla. It kept free from damp the flowers will last for four or five weeks in good condition.—ED.

Erythrina crista-galli.—Very few plants equal this when seen in fine condition. Some of the very finest groups I have ever seen occupied a permanent position at the end of a greenhouse, where near the entrance right and left were some extraordinary examples that each year grew to a height of 6 feet or more, furnished with abundance of shoots and fine terminal racemes of their blood crimson flowers. These plants were growing in Messrs. Cranston's nursery at Hereford, and, judging by the size of the base of the plants, as also their extended spread of stems, were of considerable age. The only protection afforded these fine examples in winter was a covering of old mats or the like, though it is quite possible that the roots in this case had descended to a good depth. Yet there must be many places far more sheltered than the position these occupied in gardens where this important perennial would each year make a fine display. At any rate, if hardy at Hereford in the position indicated, it is worth frequent trial to secure success. Just now a number of old plants at Kew near No. 4 house are producing many of the fine and richly coloured spikes of bloom that give a capital idea of its worth.—E. J.

Lilium speciosum.—Some groups of this fine hardy Lily are now commencing to flower at Kew. Of this kind alone there are two large oblong groups, and, judging by the numerous stems, the plants are old-established clumps. Moreover, they occupy a position in the open and, save for a groundwork of white Heath, have no protection whatever. It is true the plants are not so vigorous as when planted in shady places with a fair amount of moisture, yet, notwithstanding, they afford a capital idea of what anyone may accomplish with such things in similar places. Shade is frequently, though often quite erroneously, made with Lilies, but at Kew the heads of bloom of a large majority appear in the fullest sunshine, while the base and of course the roots also are shaded with plants of shrubby habit. By a happy choice of suitable shrubs, one spot in any garden may be made, as is noticeable in many instances at Kew, doubly interesting. Of the above Lily only the earliest blossoms were expanded on the 8th inst., so that a profusion of flowers will be forthcoming for some time to come. The above species has flowers heavily stained with rose and is among the most satisfactory Lilies for the garden. In positions well suited to it, the plants often attain 7 feet or 8 feet high.—E. J.

Watsonia iridioides Ardernei.—At the Drill Hall on Tuesday last the Messrs. Watsonia, of Colchester, had a capital group of a very beautiful pure white Watsonia under the above name. We are, however, strongly of opinion that it is identical with *Watsonia alba*, of which an illustration was given in THE GARDEN, March 25, 1893, and again in August 19 of the same year, with particulars of its place of origin by Mr. George Arderne, of the Cape. It is at present claimed that the Cape is a much superior plant to *W. alba* (syn. *W. O'Brienii*), and indeed in a communication Mr. Arderne says he has discarded the latter in favour of the former. The plants exhibited by the Messrs. Wallace on Tuesday were grown from imported roots, which in a measure may account for their fine stature and free and abundant flowering. It would be interesting to see these same plants exhibited again next year after being matured in this country. Of its beauty and its worth there can be no two opinions; the plants were fully 4 feet high, and their pure white

blossoms are produced in great profusion many weeks in succession. A soil of peat, loam and leaves in equal parts with sand added, free drainage and abundant moisture during growth are the chief points to be observed in this culture, and after flowering a decided season of complete rest is equally beneficial.

A note from New Jersey.—I am wondering where we shall be as regards outside flowers when the autumn comes. Already Gladioli, Tiger Lilies, and Hyacinthus candidans are past their best, and Lilium speciosum is opening its flowers fast. The feature of the present, however, is the Rose of Sharon. I have seen quite trees of it 20 feet high with wide-spreading heads laden with thousands of blooms, the single forms quite 4 inches across and the double heads quite as large, and handsome too, though rarely so in England. Here they have flowers as fine developed and perfect as good double Hollyhocks, and the effect of the white-flowered King Alfred. All these flowering trees and shrubs appear to make about as much growth in one season as they do in three in England. I have just seen a meadow full of *Lilium canadense* and Meadow Rue flowering together, and *Lilium philadelphicum* on poor, stony slopes where grass would not grow with its rich crimson erect flowers wide open to the sun. At Lake Hopatcong, 25 miles up country, I found arid hillsides and stony woods covered completely with an under-growth of *Comptonia apetalia*, clothing the poorest spots as does the Heather on the English hills. Within 2 miles of here the other day, driving along a road through rich boggy woods, I caught a glint of scarlet among the underbrush and stopped to find, as I anticipated, the Cardinal Lobelia. Going to Philadelphia I saw Lilium superbum in the woods, and lovely in the extreme was a great marsh full of the Rose Mallow (*Hibiscus*) with thousands of flowers wide open in the morning sun.—A. H., Madison, N.J.

Cork for paving.—This has been tried as a paving material in Vienna and London with much success. It is granulated, mixed with mineral asphalt and other cohesive materials, and compressed into blocks of suitable size, which are embedded in tar and rest upon a concrete foundation 6 inches in thickness. The advantages claimed for cork pavements are cleanliness, noiselessness, elasticity, durability, moderate cost and freedom from the slipperiness which, in wet weather, makes asphalt pavements undesirable. Moreover, unlike wood pavements, they are non-absorbent, and therefore indorodorous. Sample-taken from a street near the Great Eastern Railway station, where traffic is very heavy, had been reduced 1 in thickness by less than one-eighth of an inch after being in use almost two years.

The weather in West Herts.—On the 23rd the temperature in shade rose to 74°, and during the following night never fell lower than 59°, but throughout the rest of the week the readings were mostly below the average both during the daytime and at night. At both 2 feet and 1 foot deep the temperature of the soil now stands at 62°, the reading at 2 feet being still slightly above, but that at 1 foot 1° below the August mean. Rain fell all but two days of the week, and to the total depth of 1½ inches. Of this amount, one-half has come through the heavy, and about one-third through the light soil percolation gauge. Previous to this no rain entered all four gauges through either gauge for over five weeks, and no measurable quantity since the middle of June. The winds were, as a rule, light, and came almost exclusively from some westerly point of the compass, while the record of bright sunshine proved low for the time of year—the 24th being altogether sunless.—E. M., Berkhamsted.

Names of plants.—*Ernest Bound*—*Didiscus corallinus*—A. Hornsby.—1. *Adiantum concinnum*; 2. *Pteris cretica*; 3. *Adiantum concinnum*; 4. *Adiantum concinnum latum*.—R. Shaw.—Please send better specimen.

THE GARDEN.

No. 1294. SATURDAY, September 5, 1896. Vol. L.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ORCHIDS.

RESTREPIAS.

THOUGH not appealing to those who like large and showy flowers, the quaint forms and delicately beautiful features of these little Orchids have a charm of their own, and so fascinating are they, that no one taking up their culture is likely to willingly relinquish it. They are allied to Pleurothallis and Masdevallia, and, like these, have a dwarf, tufted habit. The flowers occur usually on single-flowered scapes at the base of the leaf, where the latter joins the stem. They are not difficult to grow, and they bloom profusely when well established and in good health, being on this account suitable for inexperienced cultivators. One essential point must not, however, be overlooked, and that is a regularly cool and moist temperature all the year round. In summer the house wherein they are grown must be very heavily shaded, kept fairly close by day in order to conserve the moisture, and freely ventilated at night. On dull, damp mornings, too, the ventilators and doors may be thrown open, this preventing any upward rush, the temperature rising slowly and naturally. As the season advances—say at the end of July—a little more light may be allowed, the blinds being let down a little later in the morning and drawn up earlier in the afternoon, damping freely and often, not only by day, but also in the evening, this, with the liberal ventilation, causing a fresh, buoyant atmosphere, pleasant on entering. In the dark winter days it is imperative that the plants receive all the light available, and this reminds me of a common mistake made in staging the plants in small, narrow houses such as these Orchids thrive best in. The stage being often flat, the plants nearest the glass are elevated on pots, those nearest the path being below them, in order to show a sloping bank and to facilitate examination of the plants. This is just the opposite of what is needed, for the inner rows of plants are farthest from the glass; they are also partly shaded by the others, and, taken altogether, get but a poor share of the light, while those at the back get all the light in winter, and are apt to be too close to the glass during the summer. The proper way is to elevate those nearest the path, and although a little more trouble is given in watering and examining the plants, it is more than compensated for by the improved health of the latter. If space can be found to suspend them from the roof, Restrepas do well in small baskets, chiefly on account of their having full advantage of all the air currents without any likelihood of chilling draughts in winter. At this latter season a minimum temperature of 50° (except on the coldest nights) will suit the plants admirably; and although plenty of instances of successful cultivation at a lower temperature may be adduced, the figure given cannot, I think, be improved upon. Restrepas grow naturally on the lichened and mossy trunks and arms of trees, where, although the roots are nearly always moist, there is but little accumulation of vegetable or other débris. This should be kept in mind in potting or basketing, and also in preparing a compost for them. The drainage must come nearly to the rim or the top rods respectively, and the base of the plant be kept above it to throw off

superfluous moisture. Sphagnum Moss will be the chief ingredient in the compost, using only a little peat fibre, and that of the best quality obtainable. Plenty of crocks may also be introduced, but they must be finely broken, and may for preference be run through a $\frac{1}{4}$ -inch mesh sieve before use. Many cultivators use sharp sand, but the crocks are much better, as they are not so liable to get swelled down among the drainage by continued waterings, and by its weight the sand is apt to run closely together. A blunt dibber should be used to fix the compost, and the surface must be clipped in neatly both for appearance sake and also in order that the state of the compost for moisture may be more readily determined. When established in the pots the roots must be kept moist all through the year, but owing to the reduced supply of air during winter less frequent waterings will be necessary to do this. If careful attention to the details of culture is given, insects will not usually be troublesome, but yellow and black thrushes sometimes put in an appearance. At the first sign of these the plants should be cleaned carefully and separately by dipping in a solution of tobacco water and soft soap, afterwards going over them leaf by leaf with the sponge. A little tobacco powder or sulphur may also be dusted about the young growths, and sprinkling with clean soft water is a capital deterrent to these active little pests. There are some dozen or more species known, including *R. antennifera*, *R. elegans*, *R. leopardina*, *R. pandurata*, *R. striata*, and others, but the two first are the most generally grown.

RESTREPIA ANTENNIFERA is a very beautiful little species of peculiar habit. It bears a heart-shaped leaf at the top of a very fine stem about 6 inches in length, and from this proceed several flower-scapes, each bearing a single blossom. The sepals are joined together at the base, and in colour are yellow with lines of bright purple—a very pleasing combination. The other segments are as fine as thread, and from this circumstance the plant takes its specific name. It is a native of New Grenada, where it grows at considerable elevations and was introduced in 1869.

RESTREPIA ELEGANS is even more beautiful than the preceding, but smaller in all its parts. It grows only about 4 inches or 5 inches high and the flowers have a white upper sepal elongated at the top and striped with purple, the petals smaller but similar in colour, the lower sepal yellow spotted with purple. This charming little Orchid is now in bloom, and is a native of Caracas, whence it was introduced in 1850.

Rodriguezia secunda.—This is making a bright and pretty show, the flowers, although small, being produced in great abundance and bright rose in colour, glistening as though covered with hoar-frost. In habit and manner of flowering this Orchid much resembles a Burlington. It used to be the custom to grow it on almost bare blocks hung up in a warm, moist house. Here the plants were a source of considerable trouble, for they needed constant dipping and syringing to keep the roots moist. Nor is this bare system at all necessary, for the roots, if small, are very abundantly produced, and will push easily through a little nice light compost in a basket or suspended pan. Usually the plants push abundance of aerial roots in addition to those in the compost, and these give the species a very quaint appearance when in flower. An important point in its culture is not to let the pseudo-bulbs grow too far from the compost, so that it becomes necessary to repeat about every third year cutting away each time some of the older pseudo-bulbs and all decayed roots. Fresh Sphagnum Moss and a little good peat fibre make a good compost for it, adding plenty of rather large lumps of charcoal as it is placed round the roots. Though a native of New Grenada, it must have more heat than many plants found in the neighbourhood, so

that probably it grows at no great elevation. While making its growth in summer, it may be placed in the Cattleya house and abundantly watered. The flowers will be produced in autumn, and the plants may then be removed to a cooler and drier house. The winter temperature should never fall below 52°, and enough water must be given to keep the pseudo-bulbs in good order.

Oncidium undulatum.—In habit of growth and manner of flowering this much resembles *O. macranthum*, but the flowers are different in colour. The sepals are large and pure white at the tips, the lower portion being shaded with purple. The petals are white and the lip bright deep purple. *O. undulatum* comes from New Grenada, and thrives in a cool, moist house. Considerable care is necessary in potting, as the roots are large and easily injured, this weakening the plant. The compost may be of the usual description for cool *Oncidiump*, but plenty of large lumps of hard material, as crocks or charcoal, must be introduced, this forming a capital holding for the roots and serving to aerate the compost. Like most in this section, it pushes its roots in many cases above the line of compost, and these roots must be carefully protected from slugs and other insects. A little Moss placed over them is sufficient if the insects are not plentiful in the house, but if they are the plants may be placed on inverted pots stood in saucers of water. Free ventilation must be given all the year round and the roots must never be dried, but watered at all times according to the state of growth.

Dendrobium Lowii.—This is quite distinct from the rest of the *nigro-hirsute* section and a pretty autumn-flowering species. Crown on a block or in a small pan and kept close to the glass in the warmest house it will usually be satisfactory. It grows nearly all the year round, and consequently does not relish the cool, dry system practised with some of the deciduous kinds, but if the plants can be induced to rest awhile after flowering, it will be to their advantage. The flowers are pale yellow in ground colour, the lip having a red blotch in the centre. *D. Lowii* is a native of Borneo, whence it was introduced in 1861.

Cypripedium Sanderianum.—This is a fine species when well grown, and it delights in a moist tropical temperature, coming as it does from the Malay Archipelago. It produces long, vigorous flower-spikes, each bearing about four flowers, that have long drooping petals like those of *C. ciliolatum*. The dorsal sepal is very pale green, fading to white, with lines of reddish brown, and this colour is repeated on the pouch. No difficulty will be found in its culture if potted and treated like tropical *Cypripedium* generally, and its utility is enhanced by the fact that the blossoms last a very long time in good condition.

Cypripedium purpuratum.—This is not, I think, a very plentiful species, and it is not unusual to see various forms of *C. barbatum* doing duty for it. It must be very nearly related, but is nevertheless quite distinct from it, one point of difference being the long, fine hairs on the petals and the almost entire absence of the warty protuberances as seen in *barbatum*. The foliage is very light green, and, being marbled with a deeper tint than usual, gives it a very striking appearance. The dorsal sepal being reflexed, gives this organ a rather narrow appearance, and the upper part is nearly pure white, the base being striped with green and purple. The culture is exactly the same as for *C. barbatum*. It is an old species, having been introduced from China as far back as 1836.

Coclia macrostachya.—This Orchid is seldom seen in collections, which is rather a pity, as the blossoms are very distinct and pretty. In habit a large plant of this *Coclia* may almost be taken for *Zygopetalum Mackayi*, but the pseudo-bulbs are rounder, quite green, and bear about three or four long, narrow leaves. The flower-spikes are produced from the base of the bulbs and consist of many bright red flowers, rather

small, but very attractive. *C. macrostachya* may be given a fairly large pot if in good health, as it is a tree rooting species and requires a rough open compost. Good peat fibre, three parts to one of Sphagnum Moss, with abundance of charcoal—broken in lumps as big as a person's egg for large plants—will suit it admirably, and the drainage must occupy quite half the depth of the pot, a layer of rough Moss succeeding this before the compost is put in. Spread the old roots out carefully and work the compost well between them, and finish off the surface to a neat cone standing in the middle of the pot. The plants take a good deal of water while growing freely, and being a native of Mexico, the Cattleya will be warm enough, the foliage being shaded from bright sunshine and kept free from white scale, which frequently attacks it. While at rest the roots must be kept well on the dry side, yet not sufficiently so to cause shrivelling; if kept wet and growing but few flowers will be produced.

Cattleya bicolor marginata.—A large plant that was purchased under this name is in flower with me, but there is apparently no difference between it and *C. Meissneriana*, unless I can find any authority for the name. It differs from the typical form, as I have it, in producing more flowers on a spike and in having a broad, marginal band of white to the lip, which makes the specific name somewhat inappropriate. It is certainly a more showy plant than the type and worthy of a place in the best collections, one great point in its favour being the length of time it lasts in bloom. It is an extremely easy plant to cultivate, thriving well in the usual Cattleya house temperature, and keeping easily to its natural routine of growth and rest.—H. R.

MILTONIA SPECTABILIS.

THERE is hardly a more variable Orchid in existence than this Miltonia, but fortunately there are none of the varieties but that may be classed as really good and useful garden plants, free blooming if properly treated, and very beautiful when seen in good condition. A peculiarity about the plant is that both foliage and pseudo-bulbs are uniformly of a pale yellowish tint that is occasionally mistaken by beginners in its culture as a sign of ill-health. This is not so, for the healthiest plants possess it in the most marked degree. The pseudo-bulbs are tapering, upwards of 3 inches in length, and each bears a pair of leaves on top and others at the base. The blossoms occur singly on long, escaped stems and the typical form are creamy-white, the seeds and petals, the lip broad and spreading, rich garnet crimson. The roots are rather small, but freely produced when the plants are healthy and strong. It is evident from this circumstance that plenty of water is required, but it must not on that account be thought that a heavy or close compost, or even a great thickness of a lighter class of material is needed. As a matter of fact about an inch is ample, and this must be of the best quality obtainable, and may consist of the usual peat and Moss mixture. If pots are used they must be filled nearly to the rims with drainage, this being kept rather higher in the middle, the compost following the same line. The rhizome should just rest on the surface, then if the roots are plentiful the plant may easily be fixed by firming the peat and Moss with the dibber, while when they are scarce it is a simple matter to run a wire round under the rim, and from this over the rhizomes, placing thin strips of cork under the wires to prevent cutting. This plan is also suitable if the plants are grown on trellised raffia, which are suitable for small or medium-sized specimens, but for large specimens pane is to be preferred. In whichever way it is grown, a light position where it obtains abundance of air is necessary, but it must not be exposed to bright sunlight. An intermediate temperature, such as suits Brazilian plants generally, will grow it well, and while the growth is active it will, if potted as described, take water almost daily when the weather is fine. In winter careful treatment must be pursued; on the one hand to keep the

plants from growing out of season, on the other to keep them no drier or cooler than is necessary for this, for in either of these cases the plants will not flower freely. It is one of those plants, in short, with which a medium course must be pursued, and no extremes of heat or cold, moisture or drought must be allowed. It is an old plant, and many fine specimens of it exist, these when well flowered having a magnificent appearance. It was the first Miltonia introduced to collections, having been sent home from Brazil in 1837.

THUNIA ALBA.

We have received some flowers of this Orchid from "P. C." who also wants to know the best way of growing it.

* * * Thunia alba is a native of some of the warmer parts of India, and therefore requires a strong moist heat while growing. As "P. C."s" plants have flowered, they have of course reached the end of the season's growth, and all that remains now is to get the long cylindrical stems well ripened by exposure to sun and air. As soon as the foliage shows signs of falling reduce the water supply considerably, and by the time the last leaf drops the plant will not require any more until the spring. During the winter months stand the plant in any light where it will never allow the temperature to go below 55° if it can be avoided. This will induce a long and complete rest, and in early spring as the sun begins to gain power you will see the young shoots issuing from the base of the apparently dead stems. Lose no time when this occurs in getting them repotted, placing each stem in a 5-inch pot and giving a compost of equal parts of peat, fibre, loam and chopped Sphagnum Moss, with abundance of crocks and charcoal broken up finely. The base of the stems must not be buried, but should just rest on the surface of the compost, a few of the old roots having been retained to steady them. Place a stake to each stem and tie it securely; then when the young shoots commence to root they will enter the compost easily. The compost should be kept just below the rim, as in ordinary potting. Place at once in a light sunny position in the warmest house at command, still keeping the plants quite dry at the roots, but lightly damping the stems over twice daily. In about a fortnight the shoots at the base will have lengthened considerably and will probably be pushing young roots. When this is the case give one good soaking of water and let them get fairly on the dry side before giving any more. After this time the supply must be gradually increased. The roots will grow rapidly and soon fill the pots, and the top growth will also be very free. If the occasional heating of the pots during the flowering season is necessary, this will be helpful, that made from cow manure and old soap being very suitable. Continue the syringing and keep the atmosphere moist until the white flower-sheath appears, when syringing must be discontinued, and if the atmosphere can be kept a little drier, so much the better, as no flowers are more liable to be spotted by damp than those of Thunias. Constant heat, moisture and light while growing, a long, dry rest and careful treatment of the roots are the chief points to be studied, and, given attention to these details, the Orchid named is very easily grown.—Ed.

Calanthe masuca.—The evergreen section of Calanthes may be said to have been nearly eclipsed by the many hybrids and fine varieties now included in the deciduous group. Still there is room for both, and either in the Orchid house proper, the ordinary stove or a warm greenhouse this plant is worth a place. The foliage is handsome when the plants are in good condition, and in addition it is one of the most free-flowering Orchids in existence, as for many months in the year the strong erect spikes continue to produce their pretty lilac and purple flowers. This Calanthe is of easy culture and may be grown in large pots, filled to one-third of their depth with crocks, placing a layer of rough Sphagnum over

this and planting the roots in a compost consisting of equal parts of peat, loam fibre, leaf mould, and chopped Sphagnum, a little decayed cow manure and plenty of crocks and charcoal being added to this. Though the plants do not need elevating on mounds, as is usual with epiphytic orchids, the base must not be kept much below the pot's rim, as if deeply buried the young shoots are apt to damp off. The water supply must be carefully managed at this time, but when growing freely a liberal supply is needed. Occasional doses of manure water made from cow manure and soot highly diluted are helpful when the spikes are pushing up, and at this time the roots should never become really dry. In winter very little water is needed, but no drying off is necessary. C. masuca is a native of India and was introduced in 1842.

Pescatoria Backhouseana.—Though very little grown, this is one of the prettiest Orchids in the genus and requires careful treatment to grow it well. The blossoms are pure white in ground colour, the outer segments being faintly tipped with purple, the lip creamy white, the centre yellow and lined with red. A Cattleya house temperature suits this plant, but the foliage will not stand sunlight, so the plants should be grouped in a shady corner. The roots, though large and strong looking, are easily damaged by excess of moisture or a too close or heavy compost. Sphagnum with a very little peat fibre may be used for it, plenty of small crocks or charcoal being added, and a thin layer only is needed over abundant drainage.

Aerides japonicum.—This requires less heat than any other in the genus, and may be grown in the cool house provided it is carefully attended to at the roots and the plants well ripened in autumn. The best way to grow it is in small pans of Sphagnum Moss suspended from the roof, and it should have the lightest position at command. It has the same habit as the larger growing kinds, but the leaves are only a few inches in length. The flower-spikes are, however, fairly large, the individual flowers being a deep yellow with bands and stripes of purple. With regard to watering at the root, the supply must be ample during the growing season, but while at rest only sufficient to keep the foliage in good condition is necessary.

ORCHARD AND FRUIT GARDEN.

NOTES ON PEACHES.

FROM close observation I have noted that the very early and late varieties are the most profitable from a market point of view. When the August varieties are in season there is less demand. My note is not intended to touch upon Peaches for market, but those for home use. Before I note a few of my favourite varieties as regards cropping I would add I am greatly in favour of young trees, or what may be termed healthy trees, as those which make little wood, get less in proportion yearly, and bear a poor crop, cannot be termed healthy or profitable. By this latter assertion I know I am liable to severe criticism, as many value such trees, being old favourites, but so far I have never been able to class them as profitable. Those who grow young trees, allow lateral growth, free extension, and give ample attention will, I am sure, bear me out that these are the most profitable. They are grown with less trouble, and I never found any difficulty in getting a heavy crop; indeed, too heavy, as at times one does not thin enough to get fine fruit.

Some of the early Peaches, notably those of American introduction, were ripe this season much earlier than usual. I have had some ripe this season quite three weeks earlier than usual. At this date (third week in August) I am gather-

ing Barrington, a mid-September Peach, from young trees in a very favourable position. This shows the value of a hot summer, and the trees revel in it when due attention is paid to moisture. Unfortunately, there is a difficulty in always getting Barrington true. I have an inferior variety, but few can mistake the true kind, the fruits when ripe having such a fine colour. Alexander, a fine variety for open air, was ripe before June was out, the crop good, and the fruit of better flavour this year, doubtless owing to the favourable weather. I class it as a profitable Peach, as it is of great value to those who require fruits in quantity at the season named. I am not fond of it under glass, on account of its bud dropping. Amsden June with me is a favourite, good when forced or on the open wall, and a reliable cropper. Of course, I do not put it in the front rank for flavour, but it is certainly most profitable, as it commands a ready sale on account of its earliness. This ripens quite a fortnight in advance of Hale's Early, and this summer it was as early as Early Alexander, being ripe at the end of June and of good size and grandly coloured. Waterloo, another of the American varieties, ripens much about the same time as those named above, and in a private garden so many may not be required. Waterloo is valuable on account of its size and earliness and its good forcing qualities. A favourite with me is Hale's Early, a good August fruit, not extra large, but one of the best, I consider, on a light soil. It finishes grandly, and I class it as first-rate in quality and of good constitution. This season my fruit was ripe by the middle of July. I have seen diverse opinions respecting the quality and growth of this variety, but in the midland counties and here I have always had excellent crops and of good quality. I am very pleased with Rivers' Early York. This season it was ripe on August 10 on a west wall. It is a good Peach in light soils. Condor, a variety not so much grown as it deserves, is a free grower, good bearer, and reliable. It was ripe this season in the middle of August. With me this variety does not make good wood some of the older kinds do, but it is deserving of good culture, as its bright crimson fruits and good quality make it valuable.

Of what may be termed mid-season fruits there is no lack. Early Alfred is one of my favourites. It is a good quality Peach, hardy and productive. Much the same remarks apply to Early Silver, a good Peach in every way. Dr. Hogg is one of the most prolific kinds I grow; its fault (if it be a fault) is that it is too productive. A very good Peach is the Early Grosse Mignonne, ripe this year the first week in August. This must not be confounded with the older Grosse Mignonne, a later fruit, though excellent. The true early kind, which is somewhat scarce, ripens early in August, and in my opinion one of the finest Peaches grown, the fruits large and of excellent flavour. The old, but good Noblesse is too well known to need describing. It is very good in most soils. Royal George is the same as regards quality, but so liable to the attacks of mildew that it cannot be considered a profitable Peach. Few who plant Dymond will regret doing so. It is excellent in most soils, of first-class quality, very hardy and prolific. Stirling Castle is a grand Peach, and one of the best as regards crop and quality. The same remarks apply to Crimson Galande, an excellent early September fruit. Barrington I have noted as first-rate, and it is one of the most profitable open-air Peaches I grow. The Nectarine Peach is worth room on account of its good quality; it does well on a

light soil. Sea Eagle must not be omitted; this is a favourite market fruit.

As to the latest Peaches, a few words will suffice. In a favourable season they are much more profitable than the mid-season kinds. There is a demand for late large fruits, but the quality is not always of the best. Such kinds as Princess of Wales, Walburton Admirable, Thames Bank, Golden Eagle and Gladstone may be termed the best of the late kinds. Salway (the latest of all) I do not recommend.

G. WYTHES.

Nectarine Humboldt.—This season is very fine, the hot summer having been favourable. The above variety is, I consider, one of the best of the yellow-fleshed section, and is now (August 22) fully ripe on a south-west wall, though its season is September. There is no cracking such as one often sees in bad seasons. I have this as a riper to fill up the space on a high wall, and the fruits in that position are much earlier and superior in flavour to those on trained trees at the lower part of the wall. The trees make a splendid growth in what may be termed a poor soil. Some persons do not like the yellow-fleshed kinds, but I find these are the best croppers, this and Pine-apple never failing to finish a good crop. I consider Humboldt superior to Pine-apple.—S. M.

Nectarine Early Rivers on walls.—Of course, with such good weather the date at which this new Nectarine ripened cannot be relied upon in future with less favourable weather, but as the seasons affect the other kinds similarly, the date is worth recording. My first fruits in the open on a south-west wall were gathered on July 30, quite a fortnight in advance of Lord Napier; indeed, to show its earliness I have Lord Napier on the tree at this date (August 22), the newer one having been over for nearly two weeks. The fruit is not only early, but it is large, beautifully coloured, and of good quality. Its value as a forcing fruit is well known. I will, if I feel sure, become a favourite for wall culture and a valuable addition to our choice hardy fruits.—G. WYTHES.

The Nectarine Peach.—This may be termed a record season in the southern parts of the country as regards the Peach and the Nectarine. One of the best of the late kinds is the Nectarine. In a cool climate it will not do well, and the most timid will not complain as regards flavour. This variety is not grown so much as it deserves. I do not advise its culture on a heavy clay soil, but in a warm soil it may be termed of good constitution, and a luscious fruit, large, with a brisk vinous flavour. On the open wall this season it is cropping grandly and promises to be much earlier than usual, its season being the latter part of September. From the size of fruit and finish it will be ripe by the middle of the month. Those who study high quality in Peaches would do well to give this variety a trial. For market I do not advise it, as Barrington and Bellegarde are heavier croppers and not so particular as to soil and position. In my opinion few varieties are superior in flavour to the Nectarine Peach, which is quite distinct from other varieties in that it has a smooth skin.—S. M.

Maturing Peach wood.—The importance of using the knife at this season and ripening up the wood is great. I consider the maturing of the wood at this season of more importance than winter pruning, as it does away with protection to a certain extent when the trees are in bloom, as if the wood is hard and well ripened the bloom is stronger, sets better, and the fruit is finer. I am aware in cases where the trees have ample space and the next season's bearing wood is given room there is less need of advice as to ripening the wood; but I have observed in gardens where food and moisture have been liberally given there is a strong top growth, and such growth left to ramble at will will prevent the wood required for next season's growth getting full exposure. Most kinds are earlier than usual this season, and as soon as

the fruit is cleared it greatly assists the trees to cut out this year's fruiting wood, as in most cases it is now of little use. With young trees this is more necessary than with older ones, which do not make such gross growth. I am not in favour of using the knife too severely on young trees, and often a young tree may be made to cover a good space and mature the wood if not crowded. Healthy wood now will give less trouble with fly and red spider next season, as it is the poor, weak wood which is first attacked. By thinning now there is little pruning at the pruning season, and in most cases there need be no fear of loss of wood by severe weather. During the hard weather of February, 1895, I had no losses whatever, though the pruning or thinning was done at this season. With free extension there need be no fear of canker or loss of wood. S. H. B.

Peach Hale's Early.—I regret the delay in replying to Mr. Day (p. 94) with respect to his opinion of Hale's Early Peach as a forcing variety. Respecting the flavor when forced, I do not class it among the best, but as regards size and colour it is a very fine Peach, and a desirable kind where early Peaches are required in quantity. My experience is the reverse of Mr. Day's as regards the tree casting its buds. So far it has given me no trouble and I always have to thin severely; whereas Alexander and Grosse Mignonne, which he notes as so superior, do not force so well, the trees dropping their buds wholesale. I first saw Hale's Early grown for an early crop by a large grower who had some hundreds of trees, and he induced me to plant it for forcing. It always bears a heavy crop, thus showing how soil and climate alter the character of fruits. I have no fault to find with Hale's Early as regards cracking. For open air it is a very fine variety. This season I had it ripe at the end of July and in quantity.—S. M.

Planting Strawberries.—With genial rains there should be no delay in planting Strawberries, even when the plants are small. A few varieties produce runners so late and sparingly, that early planting is out of the question. The ground at this season is in such a favourable condition, being warm and moist, that growth will be rapid and much time gained. If the plants are purchased it is well to well manure the land if at all poor, as the plants are often given richer soil in the small pots than when home-grown, and if planted in poor soil they receive a check. In light soils firm planting or treading of the land is important, as this causes a sturdy growth and the formation of strong crowns. It also prevents the splitting up of the plants or crowns.—S. H. B.

Apple Lady Sudleye.—Like most of the early Apples, the season of this is short and the flavour is not improved by keeping; indeed, to get the true flavour the fruits should be eaten direct from the tree, as when stored it becomes soft and mealy. It is an excellent cropper and does well in any form. I have young standards bearing heavy crops, and on bush or cordon trees the crop is all one may desire. For pot culture for early dishes few kinds give a better return, and if used just as the fruits are finishing they are much liked. I should say this would make a good market fruit for August supplies; its colour, shape, and size recommending it. The variety should be in all gardens where good dessert Apples are required at this season.—S. H. B.

Early versus late Apples.—Certainly it is absurd to put early and late Apples into competition, seeing that for all ordinary purposes both are essential in fruit culture. Whether the earliest may be the more profitable to grow is of course another thing, but referring to bush trees, I cannot but think that were Lane's Prince Albert pitted against, say, Lord Suffield's Dutchess of Oldenburg, or other well-known first earlies, it would be found that, seeing the splendid crops the first grow to regularly, as also the fine sample and the enhanced price found at Christmass, the later ones are quite as profitable as the early ones. Of larger trees, Mère de Ménage is also a fine late variety and usually

fruits regularly and abundantly. But a correspondent assumes that the common free fruiting nature of early varieties is largely due to the fact that they are early relieved of their fruits, and have before them still some time the same season in which to recuperate. But then how many of the very early sorts are there that are invariably not at all free croppers, and yet by parity of reasoning every one should be so. Lord Suffield, Duchess of Oldenburg, Stirling Castle, Manks Codlin, &c., are generally good croppers. In the same way Lane's Prince Albert is a heavy and constant cropper, and by the same reasoning, because it carries its produce so much later into the autumn, should not be capable of reproducing crops yearly. It seems to be overlooked that cropping tends with many varieties to recropping, because it checks undue wood development. Where then large wood development is the rule, then unless root-pruning is adopted, no relief of produce, let it be ever so early, will promote free, constant cropping. Because of this desire to have early crops and no trouble, we usually see Apples very plentiful in the early autumn and scarce at Christmas. —D.

La Versaillesae Currant.—I observe Mr. Crook, in commanding this undoubtedly fine Currant, refers to its tendency to break down because, it is believed, the wood is more brittle than is the case with other varieties. But that is a trouble which can easily be obviated by hard pruning, as I have seen at Clandon Park, where bushes eight years planted and on clean stems have dense heads, yet nearly close to the ground, for the simple reason that extension does not anywhere exceed a few leaf-buds at any time. The result is that whilst the drops relative to the size of the bush are very heavy and the sample a splendid one, the bushes never break down. Still more, they are easily netted up from birds. The summer shoots are shortened back fully one half as the fruit ripens to enable the nets to fit close. A little long manure placed about each bush serves to keep the soil from splashing when heavy rain falls. For such treatment bushes may be planted 3 feet apart.—D.

The Japanese Wineberry.—This Bramble was placed before the fruit committee at the Drill Hall on the 11th ult., but finding that the floral committee had previously certificated it as a decorative shrub it was passed. As a fruit it has little merit. I might say fearlessly that in respect of flavor it is below the average of that found in wild Blackberries. That the clusters of red berries as well as the foliage are pretty there can be no doubt, as compared with clusters from any good Raspberry the fruits are poor. Why it should be assumed that so poor a berry and so full of seed should be good for jam-making, I cannot imagine. A. D.

Gaps in Peach houses.—It often happens when the trees have borne a heavy crop or been hard forced that they fail to respond to the hard forcing, and one or more collapse at an awkward moment, leaving a bare space. Much of the evil is caused by the roots not being numerous enough to support the top weight, or, to speak more correctly, the root growth does not keep pace with the top, and at the point where the trees are budded, being the weakest part, loses all power of vigour and decay follows. I have noticed that trees forced gently are less subject to this premature decay, and that some kinds are very much subject to it, the early American kinds often collapsing after a few seasons' hard forcing just at a time they have become profitable. Of course, it is impossible to give remedies, as most growers treat their trees as well as their knowledge will admit, and one is pained to see fine trees go wrong. Fortunately, there are some indications of something wrong, the branches or shoots having a faded appearance, the leaves are whitish, and though the tree often opens its flowers, the critical moment is at the setting, and at a season it is difficult to make good the loss. There need be no delay now in making good such losses, and by

doing the work at this season there will be a good gain and less hindrance to forcing if the work is done when the new trees are in full leaf. I find that by lifting in September, getting a fair ball of earth and plenty of fibrous roots, and in bright weather shading and well syringing, such trees may be forced the following season with every success. In many gardens one can often get suitable wall trees to make good bare places, and if the trees are dug round at this date, making a good trench a yard from the stem, filling this with water and leaving open for a few days, the tree will lift well and soon take to its altered conditions. The principal work is to prevent flagging, to get the roots in motion and plump up the buds. A small portion of late lateral growth may shrivel, but as this is not needed it is of little consequence. —G. WYTHES.

FLOWER GARDEN.

PENTSTEMONS AS ANNUALS.

In the Chiswick gardens of the Royal Horticultural Society at the present time are to be seen some excellent flowering examples of hybrid Pentstemons at once noteworthy for the size of the individual blossoms, the great variety and peculiar markings of the flowers, as also the robust character of the growth and the great strength of the spike. They come as a surprise to those who, like myself, have been for years past accustomed to raise such things from autumn cuttings for the express purpose of securing the best possible flowers as well as the earliest display these beautiful plants could produce. Now and again for some years past have I given suggestions for putting in the cuttings of these Pentstemons in September and October as a means of securing early flowering, and I did it in the belief that it was at once the safest and best way of securing the end in view. But a visit to Chiswick the other day has revealed a new state of things such as is likely to prove of considerable worth to a large number of gardeners. Here are beds each devoted to the various strains of these flowers, and side by side are the cuttings of nearly a year ago flowering in company and in competition with seedlings the seed of which was only sown in the early days of February of the present year. Instead of the cuttings taking the lead and being in all respects superior, so far as size of plant and freedom and size of blossom are concerned, which might reasonably have been expected by reason of their age, the whole thing is reversed, and the seedlings are in every respect infinitely superior all round. Nor is it a minor difference or such an one as might easily receive varying opinions from different judges, for the case is at once most decided and emphatically in favour of the seedlings, and apart altogether from the superior strain of these flowers to which the present remarks apply. I have been a grower and propagator of the best strains of these flowers in commerce during nearly twenty years, and I have seen nothing to equal or even to approach these now flowering at Chiswick, which may deservedly be described as a vastly improved strain of a very high order.

Doubtless a good deal of the robustness that characterises the plants in the Chiswick gardens is due to the fact that they are seedlings, and that, like many other things in the yearling stage, possess a vigour that is not retained by the older examples. Whether this is so or not matters very little, for the plants in the beds beside the seedlings are weakly in their growth, while the flowers and flower-spikes are small by comparison. In saying so much for the seedlings—which are only at the outside six months old from the seed sowing—I am bound to say

that the plants from cuttings as seen at Chiswick are by no means representative of what may be done with these plants when grown from autumn cuttings, and their puny growth would rather favour the idea that the available material for cuttings last year was thin and poor, or of good ordinary character, that the plants had suffered in the matter of wintering them. Indeed, to do these plants justice, and thereby conduce to an early display of flowers, the cuttings should be potted into 4-inch pots soon after they are well rooted. Of course such methods always entail greater labour as well as the occupying of valuable space all the winter, and unless results justify all this extra cost of production the loss is considerable all round.

Whatever may be the ultimate verdict with regard to cuttings or seedlings of these plants, one thing remains obvious, that it is possible to raise these beautiful Pentstemons from seeds in the opening days of the year, and by a quick method of culture produce flowering plants of considerable merit during the same summer. This is amply demonstrated by the plants at Chiswick, and the lesson we thus learn is one of considerable import in flower gardening, particularly from an economic point of view. I have said the flowers are also remarkable for their variety, which is undoubtedly the case, for there are flowers of almost all shades of rose and pink, others there are of salmon hue and scarlet, and from these the shades pass to crimson, cardinal, and lake. Many of the flowers of scarlet and white throat are very striking, the white being very clear in some instances. Others, again, are distinctly lined veined, while the majority are notable for the large size of their blossoms individually. Indeed, in this respect they partake more of the size of those of P. Cobaea by being more gaping at the mouth, while in aspect they incline to horizontal and are much less drooping than are those of many of the older types. While by reason of the drought of the year many things are less attractive, the spikes of these beautiful and varied Pentstemons above their compact bushes of shining leaves provide an unusually brilliant display that for late summer can scarcely be surpassed. E. J.

Isotoma axillaris.—It was pleasant to meet with some plants of this old Australian greenhouse perennial in the flower garden at Dropmore on the occasion of a recent visit, and it was all the more interesting because so rarely met with now. Mr. Herring had filled some small beds with it and treated it as an annual, as it is generally considered to be, but I have seen the seeds as one would those of the bedding Lobelias and planting out in the same way. No doubt a hot, dry season like the past summer suits it best. It is a charming dwarf growing subject.—R. D.

The African Marigold as a bedding plant.—Some striking beds of the orange African Marigold can be seen in the flower garden at Dropmore. Mr. Herring speaks of the highest strains of this Marigold as a wet weather plant, and states that heavy rain disfigures the flowers very slightly, as their fully double character and the peculiar arrangement of their flat petals appear to catch the raindrops off. The beds are masses of brilliant orange, so numerous are the blooms that they form sheets of flower. It simply suffices to pick off the blooms as they decay, and then the lateral shoots so freely put forth by the plants produce plenty of others to take the place of those removed. These Marigolds should not be in too rich soil; it should be good enough to keep the plants healthy and growing, but not overrich, so as to encourage an undue luxuriance of growth early in the season, or they are then late in getting into bloom. The birds, which are sometimes very troublesome to these Marigolds, do not appear to attack the flowers at Dropmore.—R. D.

A FINE HERBACEOUS BORDER.

THE illustration, from a photo by Lady Nina Balfour, shows one of the herbaceous borders here. The group consists mostly of Larkspurs, Campanulas, and Foxgloves. When in full bloom, as they were a few weeks ago, the effect was very striking. The border has a southern exposure and has been made recently. To protect it from the north, hardy shrubs were planted, and amongst these the Foxgloves appeared as if by magic. They were allowed to grow in all the open spaces and they flowered splendidly, most of them having four to five spikes and some of them over 7 feet in height. The Larkspurs which form the centre of the group are in the border proper, and were mostly light blue and dark blue. The Canterbury Bells growing alongside were a mixture of semi-double and single pink, blue, and white.

in the flower border. I saw it recently at Swanley.

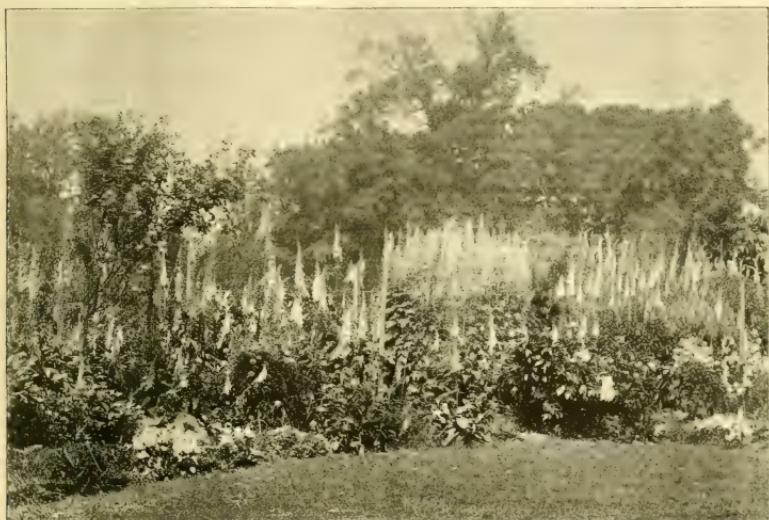
—**Carnation Ruby Castle.**—This fine free-flowering border variety has done remarkably well this season. With me it has been in flower since early in June, and at the present time is showing a quantity of buds, which to all appearance will continue to expand till cut down by the frost. The plants in question were raised from layers early last August. These when rooted were transferred to a cold frame, where they remained till the first week in April. They were then transplanted to a piece of ground that had been specially prepared for them. Here they grew most luxuriantly, and at the present time are quite as full of bloom as at any time during the summer. I have never before seen Carnations grow so robustly and send up such a quantity of flowers so late in the season, and can only account for it by the mildness of last winter, when planted out they had good balls of earth attached

type. Lovers of these sweet-scented climbing plants should lose no time in planting one as a companion to the old white variety.

LILIU CANDIDUM.

IN answer to Mr. Burrell (p. 149) concerning the drying of the bulbs of this Lily, I can only offer the following explanation, viz., that the enforced rest produced by the drying appears both by its concentrative and retarding influences to endow the plant with greater powers of resisting the attacks of the disease, assisted no doubt in a very great degree by the fact that the bulbs when again planted are rooting into fresh soil. Moreover, after such complete drying off and rest as I have recommended, the roots of this Lily come away spontaneously, the undoubted awakening after a long—and in this case enforced—sleep. In instances where this Lily remains undisturbed, the roots, judging by many I have lifted at varying seasons, are produced at intervals quite distinct from those dried.

The fact, however, remains that in some way or other the bulbs are influenced for good. This I have proved repeatedly during the past eight years. Mr. Burrell argues that the bulb has nothing to do with the disease as a first cause. Very true. But who will gainsay that a feebly rooted bulb is capable of enduring with impunity vicissitudes as great as a bulb with a full complement of roots and in good health? I am also further convinced that many things that we have learned to regard as evergreen bulbous plants are frequently brought into a debilitated state simply because we rest them insufficiently and in improper ways—in ways, moreover, we should be quite opposed to were we more familiar with the conditions under which they grow in their native habitats. Not that we should always imitate such conditions, but rather, with a full knowledge of them, modify our past practice in cultivating them. Mr. Burrell states that "the stem of this Lily is not touched in any way" (with disease), yet I have seen hundreds as badly affected in the stem as in



A herbaceous border at Newton Don, Kelso. From a photograph by Lady Nina Balfour.

A softness to the whole was given by the lawn in front, and the effect, especially as seen from a distance, was very fine.

W. WOOD.

The Gardens, Newton Don, Kelso.

A good white Dahlia.—A good pure white Cactus Dahlia has yet to be found. We have other colours in profusion. Those who grow these flowers for church or harvest festival decoration know how invaluable is a good white variety that has not the stiff formality of the ordinary show or pompon forms. This need, so far as I have seen yet, is found in the French variety named *Perle de la Tête d'Or*. The plant is a strong grower and a free bloomer, the flowers large, solid, and the petals of semi-Cactus or pointed and fluted form. They would not do to include in a collection of true Cactus flowers, but for decoration would prove remarkably useful. The flowers have the merit of being well thrown up, and the plant, when in bloom, is very effective

to their roots, which prevented any check at the time of planting. A second batch that was not layered till the latter end of the month, and, therefore, not so well rooted, has not done anything like so well as those before mentioned, as but very few of them are sending up a second layer of flowers, neither in the growth so robust. From this it would appear that this variety, if layered early and well looked after through the summer, in the way of watering, might be had in bloom till late in the autumn, particularly if protected with spare lights to ward off the heavy rains, when the flowers would be as fresh as during the summer months. I intend another season to have a patch planted where a frame can be put round them for that purpose.—H. C. P.

Clematis flammula rubra marginata.—This is a beautiful novelty that will surely be welcome. The flowers of this variety are prettily margined and, as it were, suffused with a ruby colour, and it is as free and sweetly-scented as the

foliage, and completely ruined in a very short time. I have also heard of the bush being irretrievably ruined by weather enough. I have never lost one framework in considerable quantities.

It would be very interesting and instructive to readers of THE GARDEN if both Mr. Burrell and Mr. Smith in their widely separated localities, and with their opposition to the drying theory, would each try a couple of dozen bulbs, and give the readers the benefit of the trial, for I am sanguine of the result if faithfully carried out.

E. JENKINS.

Propagating Saxifraga pyramidalis.—May I add to what is already stated in THE GARDEN at page 154, in answer to "Scalpel" concerning the above, that I have found loam, sand, and pounded brick-rubbish, the two former in equal parts and the latter one-fourth, an excellent mixture in which to root the offsets of this plant. Not that they are particularly fastidious in this respect, as one often finds them rooting beneath

the large leaves of the old flowering rosettes, the roots doubtless being induced by moisture alone. But whatever the material employed it should be such as to admit of free drainage in winter, as not unfrequently the centre of the cutting is injured and sometimes lost by over-wet conditions. For these reasons the usual damping overhead for cuttings should not be indulged in, and even in the cutting state it is well not to keep them quite close. Where only a few dozen are needed, well drained pots filled with the above will be found excellent.—E. J.

FLOWER GARDEN NOTES.

Mixed Beds.—Now that mixtures of every conceivable kind are so much in vogue in summer flower beds, it may not be out of place at this season to offer a few remarks on the best styles of planting with the view to the propagation of those things likely to be required for another season. A point in connection with such mixtures that is often overlooked is the advisability of making them as natural as possible, and one can in this take a lesson from Nature both in the contrasts of colour and in the manner of distribution. Want of harmony in the association of colour is very seldom, if ever, to be found naturally. From the early masses of Primrose and Daffodil with their grassy carpet, the blue of the Violet and the wild Hyacinth respectively, with Wood Anemones and huge clumps of wild Parsley down to the present time, when the widely stretching carpet of Heath is dotted here and there with irregular masses of Bracken just putting on its golden tinge, the contrasts one sees are always perfect, and the distribution of the different subjects in their relationship to each other invariably quite in keeping with the true shadings. There are two or three distinct forms of flower garden planting in connection with the above which are hardly to be recommended: first, the severely regular, that is, taking scarlet-crimson or pink shades in Pelargoniums, Begonias, and planting them alternately with Kongia, Gnapthium, or variegated Pelargoniums, as the height may be required. The contrast in colour in such arrangements may be pleasing enough, but the style of planting is patchy and artificial; not, at all, to follow the thought raised earlier in these notes, like the happy mixtures of Nature. Again, a combination of plants of formal habit is not advisable, no matter whether the plants are large or small. I saw an instance of this the other day in which bold clumps of Echeveria glauca had been used to relieve Cannell's dwarf Ageratum. All the flowers had been removed from the Echeveria and the beds were flat and formal. I could not help thinking that if the flowers had been left they would have shown to great advantage against the Ageratum, and given just that bit of graceful inequality that is one of the best features in summer bedding. The same stiffness on a larger scale is painfully evident in the association of Aster bees arabis or A. acris with Desbrange Chrysanthemum. Here, again, the contrast in colour is pleasing enough, but the bed as a whole has a tame-like formality. Contrast a small bed with one in which bold clumps of scarlet Lobelia are growing from a carpet of either Pinks or a good white-flowered Sweet Pea, and the advantage in effect is altogether on the side of the last named. Seedlings plants of Pentstemon gloriosissimus relieved by Acacia lophantha are looking remarkably well, and this mixture may be recommended for large beds. Pentstemons and Antirrhinums do well with Tufted Pansies, and the larger plants can be planted in large or small clumps, as the size of the bed requires. A chief point in the planting of mixed beds, whether the materials used are only hardy plants or with other things used in connection with them, is to avoid the employment of anything that is not seen to advantage in company, but is much better alone. Beds that are a veritable "olla podrida" of all the odds and ends are never satisfactory. Most of the above remarks are quite as applicable to carpet bedding. Although this is gradually dying

out, there are still places where a few beds are annually required. There is a wonderful difference displayed in such planting, and it is hardly too much to say that if the work in this direction had always been performed in good taste, the objection to this particular style of flower gardening would hardly have been so violent. The objectionable features were the various little mounds built up in different forms, the plastered sides, and the intricate and formal patterns, the latter severely regular, like the squares of a chess-board, and the former often so very minute that the proper development of individual varieties was quite impossible. There is a wide difference between this style of planting and the more natural style that provides a broad carpet of the best dwarf plants in variety, to be in their turn thinly planted with some nicely contrasting subjects of taller growth, either single or in small, graceful patterns, as the size of the bed may require.

HARDY ANNUALS.—It is a good plan to note down in early autumn any alterations that are contemplated with hardy plants either on the mixed border or in separate beds. In the former case especially alterations are often necessary. The acquisition of superior varieties to those already in hand will lead to the removal of the one in favour of the other, whilst new species mistakes are occasionally made in the positions originally assigned them both in the matter of situation, in their relative heights in connection with other things, and the power of growth. The height can in most cases be regulated by stopping or pegging, but vigour is not to be denied, and starting new plants, if planted too closely to weaker brethren, are apt to seriously interfere with the well-being of the latter. The question of increased propagation and planting of the many different things to be found in hardy borders will rest with the demand. There are special favourites in most places both for the border display and for cutting, and these should be strengthened accordingly. If bulbs are grown on the general border, it is not too late to suggest that their whereabouts should be marked with durable pegs before the autumnal alterations are put in hand. With the great wealth of hardy plants at our disposal I do not think, however, it is advisable to put bulbs on the ordinary border, especially as there are few places where they cannot be naturalised on grass either on a large or small scale. Where the natural soil on lawn or park is not adapted to them—and here, for instance, in such sites Daffodils and Snowdrops make a very indifferent display—there are often odd corners or borders in the garden where the soil is improved by cultivation where they will do well—small borders devoted to bush Apples and Pears, portions of slip gardens where Gooseberries and Currants are growing, &c. Propagation for autumn is always the securing of a bit of better soil to plant around newly-planted things; and, bearing in mind the fact that the borders are decidedly on the light side, I always provide a mixture of stiff road sidings and cow manure in the proportion of four to one to incorporate with the natural soil.

E. BURELL.

Clarendon.

Single Carnations.—When on the two last occasions of the Carnation exhibition at the Botanic Gardens, Edgbaston, Birmingham, Professor Hillhouse strongly recommended the taking up of the single form of the Carnation and efforts put forth to improve it, he appeared, to the great body of the florists present, who regard the fully double type as illustrating perfection in improvement, as one who beateth the air; and yet Professor Hillhouse had some force of reasoning on his side. He held that the single Carnation should be put through the same course of improvement as the double; that the best types of the single kinds should be selected, flowers with broad, stout petals and rounded or fine-bristled bases, as the case may be; that these should be cross-fertilised and carefully seeded; that the seedlings should be selected, and in this

way handsome single types—large, symmetrical, handsome and brilliant or soft in colour—might be obtained, which, he thought, would be warmly welcomed as an acceptable set off to the more formal double flowers. One cannot but admire the courage shown by Professor Hillhouse in pressing this work upon an audience decidedly in opposition to him, and to the great majority of whom his recommendations appeared to be of the rankest floral heresy. But that something of the kind will be attempted is probable. At one time the culture of the Carnation was almost entirely in the hands of the florists who grow solely for exhibition. Since then the flower has become extensively grown for decoration, and as Fashion takes charge of flowers and praves at times notoriously fickle in her attachments, the single Carnation may yet come to the fore. There need be no diminution of the area of the culture of the double Carnation for decoration, nor is there of necessity anything like antagonism to the double form if some should give the preference to the single one. There is room for both, and we cannot well have too much diverse material to select from when partialities are as wide as the breadth of variety found in the Carnation.—R. D.

Helianthus Miss Mellish.—I am growing this for the first time this year. The plants are 7 feet high and form big strong bushes; the blooms are large and semi-double, and for cutting they are most useful, seeing they have such long footstalks. It is a vigorous grower. My two plants were only single shoots when planted out in the spring from 3-inch pots. When in West Norfolk last autumn I noted a large, strong kind growing in farmhouse and cottage gardens. Can any reader say if this is the same kind?—JOHN CROOK.

CARNATION URIAH PIKE.

The only conclusion that growers of this excellent Carnation can arrive at after reading the verdict of Mr. T. Smith at p. 154 of THE GARDEN is that he cannot possibly have the above variety at all. As a matter of fact Uriah Pike is as distinct in a variety of ways from the old Crimson Clove as is Germany from the earlier yellow Prince of Penshurst. Indeed, Uriah Pike and Prince of Penshurst are perpetual flowering varieties of the same distinct type, always characterised by slowness of growth to maturity when both kinds are most profuse in their flowering. In just the same way the old Crimson Clove and Germany are types of dwarf border kinds as strictly "border" as it is possible for them to be. As pointed out in the editorial foot-note, the two crimson are "distinct both in growth and flower." There is a red glow in the old Clove, with its fuller, more confused flowers, much corrugated petals, shorter and invariably bursting calyx, that enable most people to separate them at a glance from flowers alone. At night under artificial light the glow may be seen in the red glow in the old Crimson Clove. Uriah Pike lacks. In Uriah Pike the calyx is of the same size, or nearly so, though at its length, but never so in the old Clove; hence the reason for splitting. Grown in pots for four years in succession, Uriah Pike will attain 4 feet to 5 feet high, flowering abundantly, but no culture will tempt the old Clove into this tree-like perpetual flowering form. Again, Uriah Pike has a smoother petal and is more rounded in form, less in size than the old variety, while among its other distinctive features it is a most prolific seed-bearer, which the other is not. As also pointed out in the editor's foot-note, the new variety will strike freely from cuttings that are freely produced on the stems after flowering. These cuttings if grown in pots without stopping will quickly demonstrate a type that cannot be confused with the old kind at all. The old Clove was one of the parents of the new variety, and, accepting the theory of the pre-potency of the male, would in this instance have been the pollen parent. Be this as it may, there is a future and a reputation in store for the new-comer as an excel-

lent kind for the flower garden, which with its fine constitution it will doubtless maintain. And after growing and selling many thousands of the old variety for years, all the leading growers of Covent Garden clamoured for the new variety the moment it was set free, and this after a four years' experience of its flowers, many thousands daily being sometimes distributed in Covent Garden alone.

TREES AND SHRUBS.

WISTARIA SINENSIS.

At The Hall, Ealing, the residence of the Rt. Hon. S. H. Walpole, there is a fine example of this Wistaria. It was planted in 1844 by the present owner at the south end of the mansion. The trunk, which has grown to an enormous size, has a girth of 5 feet at about 2 feet from the ground, and rises to a height of some 14 feet before there are any very large branches, the stem at that height being quite 4 feet from the wall. Commencing, no doubt, with the ordinary shreds, which in time had to give way to something stronger to secure it to the wall, iron holdfasts 5 inches or 6 inches long were brought into use. These in turn have been drawn from their hold, and may be seen embedded in the stems quite a foot from the wall. Since I took charge of the tree, about five years ago, strong young shoots from the base of the stem have been trained right and left, thus filling up the intervening space. The whole of the south wall, 36 feet wide and about 60 feet high, is completely covered. It has not extended far on the east side of the house, but the west side is covered to an extent of about 26 feet.

It is pruned annually back to spurs, which have lengthened out to a great extent. The long racemes of pale blue flowers hang in huge clusters, in some places 5 feet or 6 feet from the wall, and may be counted by thousands. I think this year has been an exceptionally good one for Wistarias generally. This tree always has a second crop of flowers towards the autumn. Intermixed then with the foliage the effect is very pleasing.

W. T. RIDDEN.

A golden Oak.—In the article that recently appeared in THE GARDEN on the different varieties of the Oak I did not see any notice of a golden form of the English Oak. A golden-leaved variety that stands in the park attached to Cothelstone House, near Taunton, is in form of growth the handsomest of any on the estate, thebole straight and clean, the head perfectly symmetrical, and the foliage a light golden colour. The drier and hotter the summer the deeper the tone of colour. Altogether it is a remarkable tree in my estimation, as it stood out in strong contrast in the colour of its foliage against the others with which it was associated.—J. C. C.

The Venetian Sumach.—This shrub, *Rhus Cotinus*, also known as the Smoke Plant, is at present very beautiful, the rosy purple feather clusters with which its shoots are smothered being most effective. The great recommendation is the lasting qualities of its display, which continues attractive for nearly two months. Large bushes are very handsome. An open situation where the plant has space to exhibit its characteristics to the best advantage is desirable, a site in a thickly-planted shrubbery being the worst that could be selected, as the plant, though particularly lovely, soon crowded by its neighbours and thus short of half its beauty and strength. Fine specimens of *Rhus Cotinus* are not so common as its good qualities would lead one to expect.—S. W. F.

Desfontainia spinosa.—We have here a dozen large plants of this very pretty flowering

shrub. It has proved quite hardy, having been planted out ten years. It always attracts attention when in flower, and the length of time it continues to bloom ought to make it a favourite dwarf growing shrub for planting in choice shrubby borders. Ours are planted round the edge of a large Camellia bed in a mixture of leaf soil and sand, which suits them admirably. For decoration in the house nothing can look better than a few large branches cut and put into vases.—T. T., *Creech Grange Gardens, Wareham*.

LATE-FLOWERING TREES AND SHRUBS.

UNFORTUNATELY there are not many of these sufficiently hardy to withstand the severity of our winters; there are, however, a few favoured places where some succeed fairly well, and where



Wistaria sinensis at The Hall, Ealing. From photograph sent by Mr. W. T. Ridden.

this is so, they deserve to be planted more extensively. What could look more beautiful than a good clump of *Clethra alnifolia*? When well grown, at this season of the year it is covered with slender spikes of white flowers. Here it has grown to a good-sized bush, is perfectly hardy, and flowers freely every year. Again, the *Rhus Cotinus*, or Venetian Sumach, is a most interesting plant at this time of the year, yet how little of it is to be found! One may go to a score of places and not see a plant, although it is so hardy and will grow almost anywhere. Planted alongside our woodland walks or in clumps on the lawn it is quite at home. When grown in the full sun and sheltered from the north and north-east its peculiar flowers make a fine show for a long time,

as they are then of a much deeper colour. With me it grows uncommonly well, not suffering in the least from the winter's blasts. *Rhus typhina* and some other species also make a good show particularly when allowed sufficient room to develop, their large foliage contrasting well with the flowers. *Pavia macrostachya* is also very showy, as its long spikes of white flowers, which are produced on the points of the growths, standing erect, form a peculiar feature just now, as most trees around are void of flowers. This grows well in some places and flowers freely. *Catalpa bignonioides* is not perfectly hardy in all places. With me it has grown to the height of 20 feet or more and usually blooms freely, but often in severe winters the points of the young shoots are destroyed by frost. Where the tree does well the large foliage is attractive even when it is not in flower, and is deserving of a place in our gardens on that account. There are a few sheltered places in the south where *Myrtles* grow most luxuriantly, and when in bloom they are very attractive. Some plants growing against a wall at Arundel Castle are flowering most profusely this season, likewise the *Punica granatum* and *Solanum jasminoides*. It is, however, only in such favoured spots that they are to be found growing in the open. The *Magnolia* trees growing in the hall at this place were lost by the severe frost of 1890; they are, however, recovering and many of them flowered freely. *Desfontainia spinosa* for some years grew and flowered most profusely in the gardens here, having withstood several severe winters, but it succumbed a few years ago. Where this does well it is a most interesting plant, flowering at a time when few outdoor shrubs do. In some places *Escallonia montevidensis* flourishes admirably, and where this is the case there are but few autumn-flowering shrubs that make such a display, the large trusses of bloom being produced in such profusion on the young shoots. With me the plants, though grown to a goodly size, perished by the late frost two seasons ago. *Dimorphanthus mandshuricus* is also a free autumnal-flowering plant, and, like the *Sumach*, has large foliage. For making a bold display, few things are more useful when planted in groups alongside the woodland walks; being quite hardy, they might be planted in such places more generally, particularly on sloping banks not far from the margins of lakes. *Olearia Haastii* is also a free-flowering plant that might be more extensively grown, for, being of compact habit, it might be used where others of its robust growth could not be employed. *Abelia rupestris* is also a plant well worthy of notice, particularly when it does well, as it continues to bloom till cut down by the frost in autumn. Sometimes Christmas is with us before its last flowers disappear.

H. C. P.

Buxted Park, Sussex.

Viburnum cassinoides (*says Garden and Forest*) is a common inhabitant of northern swamps, and is distributed from Newfoundland to the Saskatchewan and southward to New Jersey. In its native swamps this Viburnum is a straggling shrub sometimes 12 feet in height, but in cultivation it makes a very compact, symmetrical bush, 5 feet or 6 feet tall and broad. The leaves are thick, leathery, and rather dull green, and the flowers, which are of a pale straw colour or nearly white, are produced in compact cymes 4 inches or 5 inches in diameter. They are succeeded by abundant fruit, which is pale green at first, then of a bright rose colour, and finally dark blue-black, berries of the three colours often appearing together in the same cluster. It has been used in great quantities to decorate the margins of the roads through the Arnold Arboretum, and seedling plants showed a decided tendency to vary both in the size and form of the leaves, in the size of the flower-clusters, which are flat or rounded above, and in the colour of the flowers. This tendency indicates that if large numbers of

plants are raised from seeds, individual plants may surpass in some particular of foliage, habit or flower any of the plants of the normal type, and a desirable variety may be established. Among the hardy shrubs of all countries there are very few which surpass *Viburnum cassinoides* in beauty and in all those qualities which make a shrub desirable.

SHORT NOTES.—TREES AND SHRUBS.

Quercus pectinata.—This beautiful Oak makes a fine tree to grow in pyramidal form. It is rather slow in growth, so when planted on a lawn or some open space, a vigorous tree would be out of place. Its handsome Fern-like leaves, also its pretty acorns, are very attractive just now.

Eulalia zebra is a very distinct and ornamental grass that deserves more extended cultivation. It grows to a height of about 5 feet and has a Bands-like appearance. The leaves, which are grass-green in colour, are each about 2 feet long, and beautifully blottedched at intervals of 1 inch to 3 inches with almost square patches of gold, giving the plant the unique appearance that suggests its varietal name.

KITCHEN GARDEN.

SELECT BEET.

NOTWITHSTANDING the increased demand for Beet of good quality, few new varieties of sterling merit have been introduced during the last twenty years. Those which have appeared have proved, with one or two exceptions, to be more conspicuous for their large size, coarse grain, bad colour, and inferior flavour than anything else, having in many instances been discarded after the first trial.

In many private establishments it is the custom to send Beet to the lunch table separately, being merely cut into slices and steeped in sald oil, and in this way its quality can be more correctly judged than when cut up and partially hidden amongst Lettuces, Cucumbers, and other things. The large Beets find the least favour with gardeners generally, and many varieties which are catalogued as small or medium-sized will, if sown even on moderately rich ground and freely thinned out, grow far too large, exhibiting when cut white woolly rings, and cooking a sickly pale colour. Of course, much may be done to avoid grossness by giving a suitable soil, sowing tolerably late, and avoiding over-thinning, but gardeners sometimes err in selecting a too shallow, hungry plot with a view to securing medium-sized roots, thereby sacrificing both colour and quality. Ground in good heart from which a fairly impoverishing crop has been cleared should, without any additional manuring, grow good roots if the variety is a good one, not sowing the seed till say the end of April for the main crop. Early Beet is not required here. If it were, I should perhaps be compelled to grow the Turnip-rooted, although from a quality point of view I never thought the original Egyptian or the so-called improved strains of that variety equal in quality to some of the earliest long varieties, such as Nutting's Dwarf Red and Chelsea Selected Red, which can be had almost the whole year round by sowing the latest-sown batch in cool quarters facing north, occasionally sorting them over and removing all spring growth, and by sowing the same sorts on a sheltered border in March. I have several times sown these Beets in a spare cool pit in February and had useful roots in June, and although not, I think, generally known, Beet raised under glass and duly hardened transplants very well if attended to for the first fortnight in the matter of shading and watering. In this way the favourite long-

rooted sorts may be early secured where the Turnip-rooted varieties are objected to.

After trying many sorts, I give a decided preference to the two medium-sized varieties mentioned above. The former is a very old Beet, but for general usefulness it is far in advance of such much-lauded sorts as Pragnell's Exhibition, Pine-apple, or even Dell's Crimson. Of these three, Dell's is by far the best, its colour being good, but with the least encouragement it grows too coarse. Pragnell's may be all very well for exhibition, but those white rings which are visible on its being cut will not do for first-class cooks. I have seen Pine-apple quite as large as an ordinary Man, and nearly as coarse, but I do not think it is much grown now-a-days. Cheltenham Green-top is a popular Beet, having medium-sized roots of a bright red colour. Middleton Park Favourite is an improved strain of Dell's and is said to be reliable, but I have never seen it. One of the very best medium-sized, high quality Beets in cultivation is Dewar's Northumbrian. It favours Veitch's Selected Red, but does not, in my estimation, quite equal that variety. All Beets, even of the medium type, must, if high quality is to be secured, be grown with care and judgment. A large coarse variety is about the worst thing a gardener can have, as while being of little or no use either in pantry or kitchen, it deprives the soil in which it grows of an immense amount of nourishment. J. CRAWFORD.

BRUSSELS SPROUTS.

This vegetable seems inclined to make a rampant growth this season, and with early sown batches there is fear of the sprouts becoming abnormally large and brittle on opening. For my own part I do not see the advantage of sowing Brussels Sprouts so early as some advocate, even where they are wanted in autumn, as when they arrive at planting out size, out they must go, let the weather be ever so inclement, or otherwise a stunted growth ensues and they soon become useless. More than once have I known early batches to be planted out on permanent quarters at the end of March or first week in April, and although they were supposed to have been well hardened off, they presented a sorry appearance after a week had elapsed. March sown lots eventually beating them in every way. I always make a sowing about the third week in February in the second early Carrot frame for producing sprouts for use early in October, and although this locality is by no means an early one the plants have in some seasons completed their growth, and are furnished with sprouts from top to bottom by the end of August. This is the case this year. For main winter and successive spring supplies I find it best to sow from the middle to the end of March and again in April; the plants from the latter sowing if at all back-will grow slowly all through the winter if not too severe, and will even during February materially increase the size of their sprouts and prove most useful. I have sometimes been astonished at the progress made by these late batches during this time, and the sprouts are always bullet-like and have very little waste above the sprout. Correspondent some time since condemned the practice of growing Brussels Sprouts on undug ground that had previously carried a winter or spring crop, but I find the practice a good one, and that if some of the dwarfier varieties are thus treated, a steady growth and a stem covered from summit to base are the result. Previous to planting I give a moderate broadcast sprinkling of artificial manure, and merely break the surface with a fork the better to ensure its being washed in by rain. I have noticed that the dwarfier strains are not nearly so apt to produce abnormal sized sprouts, which so often give annoyance by bursting open and present the appearance of small Cabbages. Reference has sometimes been

made to the hardy frost enduring character of this vegetable as grown in fields for market compared with those grown in ordinary gardens, without recognising the truth of this would remark that although the extra hardness could be produced by exposure, yet garden batches would stand the winter better were more room allowed the plants, and in small gardens where crowding is practised, allowing more space would result in a greater aggregate weight of produce.

J. C.

CABBAGE LETTUCES.

ALTHOUGH for eating separately most people prefer Cos to Cabbage Lettuces, yet the latter are indispensable in all gardens where salad is a special feature, and at certain seasons and for certain purposes are even of more value than the Cos section. Many prefer them for the salad-dish, and really some of the more recently introduced varieties have such solid, compact hearts when quickly grown in good soil that there is little to choose in this respect between them and the best of the Cos varieties. Moreover, the smaller sorts may be planted so thickly that a great number may be had on a limited piece of ground, and they are not so particular as to position as are the Cos varieties, doing very well in partially shaded places, as, for instance, alongside espalier fruit trees. Then again, most of them come to perfection more quickly than the Cos, which fact alone makes them valuable; and several of the very newest sorts, when sown in January and pricked out into frames or pits facing south, will heart in sufficiently for use in March. As in the case of most vegetables, a few of the oldest varieties of Cos Lettuce are still very hard to beat for general purposes, and amongst them must be mentioned Hardy Hammersmith and All the Year Round. The latter is most reliable for sowing either in spring or autumn, having beautifully white, firm, well-flavoured hearts. Hardy Hammersmith is not so good in quality as the preceding variety, but then it is so very hardy that for autumn sowing to stand the winter, it cannot easily be beaten. It is seldom that this Lettuce succumbs, even during the sharpest winter, if protected by frames of pits.

Two of the best varieties for summer use, and for retaining in use a long time, are Perfect Gem and Continuity. Both are of medium size and exceedingly well hearted, withstanding drought better than any others I am acquainted with. Continuity is very distinct in its outward appearance, being of quite a bronzy hue. This Lettuce has found great favour with gardeners since its introduction a few years ago. The old Drumhead or Malta is a very good Lettuce for ordinary summer use, although not so compact and closely-hearted as some of the smaller newer sorts. Early Paris Market must be named as being indispensable for sowing on warm borders early in spring, where it will form good heads quicker than most sorts. The quickest-growing Cabbage Lettuce, however, I know of is Golden Queen. It is simply astonishing how short a time it takes to arrive at maturity, and is quite unrivalled for sowing in January and February, with a view to bring the plants on in pits and frames.

J. CRAWFORD.

Failures with Spinach.—Last autumn was one of the driest we had for many years, and the autumn sowings suffered badly through bad germination. Of course, the seed may have been wanting in vigour, but I noted plants in a low, damp situation suffered much less than those in a high or exposed position. This points out the advisability of not sowing all in one place, and the value of various kinds of soil for certain crops. In soil affected with wireworm the good old remedy of soot and wood ashes used freely in the drills when sowing is difficult to beat, and in heavy clay land old mortar rubble is a splendid addition. The crop is so useful during the winter and for March and April supplies that a little extra trouble is well repaid in preparation of soil and attention to crop. This is of more importance

than mere variety, as both the prickly and smooth given good culture are equally good for autumn sowing.—S. H.

Ornamental Gourds.—It seems a pity that these really very interesting things should not be grown in a more decorative fashion than is usually the case. To show them off to full advantage it is needful to construct a rough sort of pergola over which the plants can be trained, or else give them run over upright and cross poles fixed to each other at intervals, either over kitchen garden paths or in some other places. I saw the other day a very fine and exceedingly interesting collection of these gourds. They were partially on the ground and partially running over stakes, fixed along on either side, but whilst fruiting well, yet did not show off the fruits to advantage. There were the Pear-shaped, green-pointed with orange towards the stem, the yellow oval with protruding warts, and the bottle-shaped—Indeed, so many, that I noted but a few. Still, all were as pleasing as they were varied.—A. D.

Earthing up Celery.—I am never in a great hurry to earth up the Celery, more so after a hot dry summer, as, no matter how well the plants are moulded up, it must check growth. Of course with early supplies it is necessary to mould up to blanch the stalks, but with these very early crops this does less injury, as the plants are lifted so soon. I have found the heads go bad much worse by heaping up large masses of soil before the plants have perfected their growth than from any other cause. For years I have left my late and mid-season plants to the last moment before earthing up. In cool weather the blanching takes so short a time that there is time to have the whole gradually giving a little soil at the base fortnightly; this allows of free growth and also permits the moisture to reach the roots. By the late earthing up advised, the tissue of the stalk is more hardened, and the plants for late supplies are in better condition to stand severe weather.—G. W.

MANURING GROUND FOR SPRING VEGETABLES.

The advice often given to manure freely for such plants as spring Cabbage and similar vegetables is good where the land is poor and the previous crop an exhausting one. In many gardens, and in old ones especially, one may overdo the feeding and in a measure prevent the plants being strong enough to stand our variable winters without injury. A soft plant with unusual length of stem is the one to succumb to severe weather. I am not in favour of starving by any means—quite the reverse—but I have noted the last few years the plants not manured at the time of planting, or, say during August for autumn planting, have never failed to give a good return and have been free from running. I notice Mr. Tallack (p. 145), in the excellent advice he gives on Cabbage ground, touches upon this question, and though he does not go so far as I do, he notes the value of the ground which has borne a shallow-rooting crop and which was heavily dressed, as suitable for the Cabbage. I agree with him, and not only do I plant as advised, but do not dig so deeply, cleanse, and then draw drifts. The ground bears very firmly and very early growth follows and there is no fear of bolting. For some years I have planted Borecole after early Strawberries, which are treated as annuals, and it is soon seen at a glance how fit such plants are to battle against our east winds, which do so much harm after prolonged frost, the plants being much shorter of stem and harder. In this case manures are not given with excellent results. I admit the heads may not be so large as on plants in newly dug and manured land, but they are very compact and there are fewer losses. Cabbage follows Onions with little preparation, only just cleansing the surface, and it is a great saving of labour, the drawing of drills taking so little time, and in light soils the advantage of a

hard, firm bed is very great. I pay more attention to feeding just as growth is active, liquid manure or a quick acting fertiliser being then of great value. —G. WYTHES.

CHRYSANTHEMUMS.

NEW EARLY CHRYSANTHEMUMS.

It is a matter for congratulation that among the newer sorts there are Chrysanthemums which must presently become popular. Not only are the Continental raisers obtaining for us greater variety in colour and form, but growers in our own country are giving greater attention to them; so much so, in fact, that it is now possible to obtain quite a nice selection of first-class sorts, in which the colour, form and habit of growth should meet the requirements of all. Whether intended for open border cultivation, or for growing in pots with which to embellish the conservatory, or for securing a batch of plants for providing cut flowers during the early autumn season, the early Chrysanthemums are invaluable. Especially are they appreciated when the early frosts mar the beauty of the Dahlia and other tender subjects. Some of the more noteworthy sorts which have already developed their blossoms, and also give promise of a continuous display for some time to come, are—

FRANÇOIS VUILLEMET.—A useful little Japanese flower, with short florets of medium width on footstems of a convenient length; colour lilac-white, with silvery reverse, nice spreading habit. Height about 2 feet.

M. CASIMIR PERIER.—This variety, like the previous one, is of Continental origin, and was sent out last year. Of the whole of those distributed last season, this varied considerably in height. It is a large Japanese flower, with long drosets of medium width, colour white, tinted and suffused pink. It is seen to greatest advantage when grown without disbudding. Each blossom, measuring quite 4 inches across, has a nice long footstem. Height about 3 feet 6 inches.

MADAME CAEMIAUX.—Another chaste Japanese flower with long drooping florets, colour pure white on early buds, those secured later being tinted rose mauve. It is a useful sort for cutting, each flower being borne on a long footstalk. The habit is not quite so good as one would desire, the growth being rather weak. Essentially a pot plant. Height about 2½ feet.

MONS. LEVEQUE PÈRE.—In this variety we have a distinct acquisition to the earlier sorts. The blossoms are of Japanese form, measuring from 4 inches to 5 inches across; florets long, of good width, colour light chestnut-red, suffused bronze with golden reverse. In the Rycroft collection the plants are about a foot in height, each carrying eight to ten large flowers. As a sort for the hardy border this variety promises very well, the flowers retaining their colour during the hot and trying weather.

QUEEN OF THE EARLIES.—A welcome addition to the early white varieties; florets of medium width, curving slightly at the tips. Crown without disbudding, blossoms 4 inches in diameter are easily obtainable. Height about 4 feet. Nice free habit of growth.

HARVEST HOME.—Although this variety is two or three years old, little of it has yet been seen. As an early sort for the open border or for pot culture it is equally well adapted, and grown without disbudding is indeed valuable. The flower is of true Japanese form, with slightly twisted florets of medium length, colour crimson, tipped and flushed with golden-yellow, a distinct break in colour. Another good point is its free-flowering quality combined with a most desirable habit of growth. Height about 3 feet or a little more.

MADAME MARIE MASSE.—No garden should be without a few plants if cut flowers of its colour

are in demand. It is a Japanese flower of good form and large size, with florets of medium width, colour, a pleasing shade of lilac-mauve. It is a most profuse bloomer, grand sprays with large individual flowers on useful footstalks being obtainable without disbudding. Plants in the open, each measuring 3 feet or more through, will carry 150 to 200 useful blossoms. It has a nice spreading habit of growth. Height about 2½ feet.

EDE WRIGHT.—This is an English seedling, raised at Rycroft Nursery. It is a large incurved Japanese flower with broad florets of good length, blossoms each 4 inches in diameter, being perfected without disbudding. The colour is a pleasing shade of pink, tipped gold in centre, passing with age to a pinkish white; nice bushy habit; height about 3 feet.

MME. EULALIE MOREL.—A very pretty Japanese flower with florets of medium width, colour lovely deep cerise, shaded golden yellow, a striking flower. The habit and growth of the plant is not so bushy as one would like. Height about 2 feet.

YOUNG L'AMI CONDERCHET.—This is a rich yellow golden sport from the cream-white *L'Ami Conderchet*, and for the hardy border (especially planted in masses) is very tall. It is of a beautiful compact habit; height 15 inches to 18 inches.

WHITE LADY.—This is not a new sort, but as the flower is so little known, and as it also possesses so many good points, it merits more attention than it has hitherto received. This is probably one of the most free-flowering pompons grown, the blossoms being of exquisite form and extremely chaste in appearance; colour a pleasing light shade of bluish; height about 18 inches to 2 feet. This variety was raised from seed saved from Salter's Early Blush.

BRONZE BRIDE.—A rich reddish bronze sort from the well-known Blushing Bride, one of the best early pompons. Grown in open borders this variety produces a rich piece of colour when planted in masses. It is very free-flowering and a most continuous bloomer; height slightly over 2 feet.

D. B. CRANE.

Popular Chrysanthemums in Australia.—Mr. S. W. Levick, who annually tabulates the varieties most frequently shown at the Australian shows, gives the following results for the past season: Kate Mursell, shown 13 times; Mrs. S. H. Horton and Vivian Morel, 12 times; Miss Dorothea Shea and Golden Gate, 11 times; Mlle. Thérèse Rey, Col. W. Smith and Pride of Maidford, 8 times; Good Gracious, Golden Wedding, International, Miss Annie Hartshorn, Mrs. C. Harman-Payne and Mrs. E. D. Adams, 7 times; Robt. Williams, Charles Davis, Director Kowalew, Lady Lawrence and Felicia, 5 times; Eda Prass and Mlle. Madeleine, 5 times; E. J. Jamieson, Mrs. W. Childs, Gloria de Rocheher, T. Wickham Jones, Sunflower and W. Tricker, 4 times; Mrs. Wynne, Abbie Mendenhall, Luriëce, Master Bates Spaulding, Mrs. Jerome Jones and Mrs. S. Purchas, 3 times. All these are of the Japanese section; the audit of the incurved varieties is of but little interest.—C. H. P.

Chrysanthemums.—Very many complaints have been heard this season of troubles to Chrysanthemums arising from aphis, earwigs, curl-blanching, mildew, &c., for it would seem as if pot-grown plants were more susceptible to ills than even the human family. Probably it would be found that the bulk of these troubles come from some cultural defect, especially in relation to watering. Garden help is, as a rule, none too considerable, and as the growing of a few hundreds of pot Chrysanthemums, especially to produce exhibition blooms, entails great additional labour on a garden staff, which has no corresponding increase, no wonder if during such an exacting season, as the past has been, many plants have from time to time become too dry, and have suffered in consequence. But there are collections, and large ones too, which, well looked after, are now in fine condition, and notable is the very extensive one in the gardens at Woothatch, Reigate,

under Mr. Salter's charge. There, beyond a comparison that some varieties seem taller than usual, the plants look in perfect condition. Mildew seems to have given some trouble, but that has been satisfactorily combated by giving the foliage one or two light syringings with the Bordeaux mixture. It is the rule here to keep all the plants in pots larger than 9-inch pots. The result seems everything that can be desired. The collection comprises all sections of the show Chrysanthemum. It stands on a south slope a very hot position. The chief effect of such exceeding exposure to the sun seems to be perfect ripening of the seed, and the terminal growths indicate the final production of grand flowers later. There are few collections in the south better worth seeing at the end of October than is Mr. Haywood's at Reigate.—A. D.

Chrysanthemums coming single.—"Hibernia" (p. 112) says why some well-known varieties develop blooms which have the appearance of being single. Many kinds produce double flowers under any conditions of growth, but must be cultivated well to obtain them of a large size, whilst others will not develop double blooms unless their culture is of the best, so that I should say the sorts complained of belong to the latter category. Another cause is late bud formation. The variety E. Molneux is a striking instance. On weakly plants or from buds set later than the second week in August the blossoms rarely produce more than one or two rows of florets, but when in good form they are seen fully double and exceptionally large and deep. Others that come readily to mind are G. C. Schwabe, Lord Brooke, Boule d'Or (old variety), Miss D. Shea, Mrs. C. H. Wheeler, and sometimes Avalanche and Elaine.—H. S.

A Chrysanthemum journal.—The secretary of the French National Chrysanthemum Society at Lyons, in a circular dated August 10 addressed to the members, calls attention to the fact that the society intends to issue a quarterly publication devoted exclusively to that flower. Efforts will subsequently be made to issue it as a monthly. The Northern Chrysanthemum Society of France has for its original organ the new monthly gardening magazine called the *Nord Horticole*, and the Paris Chrysanthemum committee of the National Horticultural Society of France have already issued the first number of a new publication to be supplied to its members. It is expected that the first number of the French N.C.S. quarterly will appear in September.—C. H. P.

New Australian Chrysanthemums.—*The Australian Field*, in referring to the latest novelties raised in the colony, says one of the finest is Mrs. J. H. Horton, now well known. Others are Minembah, raised in 1895 by Mr. S. B. Levick, of Longueville, the colour of the petals being a deep yellow, lined reddish brown; R. Forsyth, a closely incurved Japanese of a dark lilac colour; Walalaro, a Japanese variety raised by Mr. Levick, of very large size and depth, the colour of which is a rosy pink, the petals having a silvery reverse. The finest seedling of the year was J. R. Upton, a bright yellow Japanese. Others of special merit were Mavana, Mrs. R. Forsyth, Minnie May and Mrs. J. Upton. It seems to me to be useful to place these names on record, as the varieties may probably be imported here in the course of next season. We have several very promising varieties of Australian origin.—C. H. P.

SHORT NOTES.—CHRYSANTEMUMS.

Chrysanthemum Flora.—This bright yellow small-flowered is one of the most effective of early kin. It has a free, easy, bushy growth, and does not grow tall. It is in flower now, early August.

Chrysanthemum Mme. Marie Massé.—This is an excellent early flowering variety. The leaves are large, rounded, ready, are each about 1½ inches across, colour mauve and white. In height the plant scarcely reaches 2 feet, and it has a naturally bushy habit.

Chrysanthemums Blushing Bride and Bronze Bride.—These two varieties, the latter a sport

from the former, are capital early sorts. The blooms are each 2 inches across, quite double, and richly coloured. Their growth is of a dwarf branching nature. They should be grown in quantity for an early supply of Chrysanthemum flowers.

GARDEN FLORA.

PLATE 1082.

BEARDED IRISES.

(*I. APOGON.*)

(WITH A COLOURED PLATE OF *I. MISSOURIENSIS*.*)

For gardening purposes and irrespective altogether of scientific classification, Irises may be roughly divided into five heads. These are (1)



Iris orientalis.

bulbous Irises, (2) dwarf Irises, (3) broad-leaved or Flag Irises, (4) narrow or Rush-leaved Irises, and (5) the Asiatic species, mostly of recent introduction, to which the uncouth name of Oncocyclus has been assigned. The cultivation of this last is at present confined, and is, I fear, likely to continue to be confined, to specialists.

* DRAWN FOR THE GARDEN by H. G. Moon from a specimen sent by Mr. J. Carrington Ley, St. Helena, East Farleigh. Lithographed and printed by J. L. Godfart, successor to Guillaume Sevreyne.

while of the four remaining divisions, the fourth, to which the Iris figured in the accompanying plate belongs, is unquestionably the least generally known and popular in English gardens. The world is understood, I believe, to know nothing of its greatest men, but the world, which is also understood to have taken to gardening soon after its creation, probably knows what is best for itself in the matter of furnishing its flower borders, and I, at any rate, do not propose to write a special eulogium on these Irises with a view of suggesting that they should be admitted into small gardens to the exclusion of more showy things. Anyone, however, who looks at the plate can see that one of the species, at any rate, is beautiful and distinct. And there is this further to be said about these Beardless Irises as a class, viz., that they have not—with one notable exception, *I. ligustrina*, the ancestor of all the countless varieties of *I. Kämpferi*—been largely taken up by the hybridiser, and consequently they have the interest, such as it is (and it is a good deal to some of us) of being known to be "wild somewhere."

To attempt an estimate from a gardener's point of view of all the known species of Iris Apogon would probably be impossible to anyone, and such a thing is certainly entirely beyond the range of my own knowledge. But as I have been asked to furnish a few notes on some of them, I propose to indicate some among those that I possess that I consider the most desirable, some few more that seem to me to be more or less inferior or worthless as garden plants, and to end this paper with some observations on three or four others which have always interested me, which I have from time to time attempted to grow, but which I have failed with myself, and which, as far as I can ascertain, have never yet been successfully established in European (and it may be not in American) gardens. Among the best are:—

IRIS MISSOURIENSIS (*syn. I. Tolmeiana*) (figured herewith) is one of the earliest to flower, with light green linear leaves and light lilac flowers, a lovely plant. Native of Rocky Mountains and California.

I. TRIDENTATA (*syn. I. tripetala*).—One of the most distinctive of the white-ground and unlike other Irises, it has dark lilac flowers, with very short standard. I am disposed to think that this plant does better in moist situations, it certainly fails somewhat here in dry years. Native of Southern United States.

I. SIBERICA.—The common *I. sibirica* with blue and white veined flowers is common enough in gardens, but with others, which are commonly classed as varieties of this species, are altogether distinct in habit of growth and time of flowering. One of them is no doubt *I. sibirica* var. *orientalis*. The other (which reached me as *I. prismatica*) may be the plant known as *I. hematophylla*. They have rich blue (almost true blue) falls, with brown markings at the claw, and are well worth growing. Native of E. Siberia.

I. HUMILIS and **I. GRAMINEA**.—I cannot satisfactorily distinguish these, and they are practically the same for gardening purposes, but in spite of their bad habit of flowering below the leaves, one or the other is worth giving a place to. The flowers are good for cutting, and they are distinct in marking from those of other Irises. The former is native of the Caucasus, the latter extends from France, through Europe, to the same mountainous region.

I. LONGIFLALIA has light lilac, copiously-veined flowers. Native of California, but easy to grow.

I. VERSICOLOR.—There appear to be at least two varieties of this, one with dark claret-purple and white markings, the other (often sold as *I. vir-*



IRIS MISSOURIENSIS



ginica) with the same white markings, but having the falls of a lighter bluish lilac. They will grow anywhere, but appear to prefer moisture. Widely distributed over North America, from Hudson's Bay, southwards.

I. CUPREA (syn. I. fulva).—Flowers of a bright coppery brown, distinct from those of any other



Iris ruthenica.

Iris in cultivation. It flowers now regularly in my garden, planted in a sand bed with a cemented bottom, but it is certainly a capricious bloomer. I have had it for fifteen or twenty years, and in many parts of my garden it has failed to bloom at all. Native of United States, principally southern, but quite hardy.

I. DIAZIANA.—One of the most distinct Irises that I know. It has long, dark green, linear, evergreen leaves. Native of California, but not difficult to grow.

I. OCHROLEUCA (syn. I. orientalis).—The latter has the right of priority over that given by Linnaeus. There is a note on the point in a recent number of THE GARDEN (vol. xlix, p. 475). The name *I. gigantea* is entirely superfluous, but although ochroleuca is not a good name—for it means yellowish white, and not yellow and white, which are the distinct component colours of this handsome plant—it is, I think, better than orientalis, for the number of Irises from the East must by this time equal, if not exceed, the number of wise men hailing from the same quarter.

I. AUREA AND I. MONNIERI.—For an account of these; see THE GARDEN (vol. xxviii, p. 463), where they are fully described and the doubtful origin of the latter discussed. I may add, with regard to these tall, handsome Irises, that they are plants worth growing in any garden; and with regard to the hybrid *I. Monspur*—figured on the same page to which the reference is given—that this is the finest purple Iris of the same character, i.e., it is richer and better in colour than *I. spuria* or any of its varieties with which I am acquainted.

I. GRANT-DUFFEL.—This grows slowly here, though apparently healthily, but has not yet flowered. It has pale yellow blooms. Native of Palestine.

I. ENSATA.—I have two varieties of this plant bought (and I regret to say paid for) under the respective names of I. Alberto and I. hexagona. They are different in habit, one of them producing flowers on dwarf pedicels much below the foliage like *I. humilis*, but the blooms are the same pale blue with white veins, and both are practically worthless as garden plants. Native of

teperate Asia.

I. STYLOSA I. cannot bloom satisfactorily here under any conditions that I can devise for it. It grows and flowers freely in a friend's garden a few miles away, which is on or near the greensward. Native of Algiers.

I. RUTHENICA.—This is one of the very tall dwarf Irises belonging properly to the Apogon section. It grows strongly in this garden and forms a dense tuft, but here, at any rate, it is worthless as a garden plant, for it seldom or never flowers, nor can I form any opinion as to change of conditions likely to make it do so. It is a pretty small Iris. Native of Russia and Siberia.

I come now to the consideration of three or four Californian species, which (partly, perhaps, from the difficulty which appears to surround their successful cultivation) have always greatly interested me. These are *I. tenax*, *I. Hartwegi*, *I. bracteata* and *I. macrospadix*.

I. TENAX.—I have, I believe, on one or two occasions in notes on flowers which have been published in this journal alluded to this species; but, apart from my own remarks, I do not remember ever to have seen a notice of it in this or any other gardening paper. Many years ago I saw in one of the houses at Mr. Ware's nursery at Tottenham a plant in bloom purporting to be this species, and I recollect thinking it very desirable, for there is a red in the lilac which renders it distinct from any other Apogon

for a few weeks, soon succumb, having evidently insufficient vitality to enable them to make root growth. There is in THE GARDEN (vol. xvi, p. 30) an exceptionally valuable and instructive note on these Irises by Mr. J. N. Gerard, of Elizabeth, N.J., and as I inferred from it that my friend Mr. Ebwank was one of the very few who had ever successfully grown it in Europe, I wrote and asked him about it, and I give here the substance of his answer. He says that some fourteen or fifteen years ago he received a good piece from America in early spring which he planted with special care, and which increased in size and flowered splendidly. Subsequently he divided this plant in the autumn into several pieces, not one of which lived. He adds that he has bought it (often getting the wrong thing) and obtained it by gift often since, but that he has never again succeeded in establishing it. Mr. Ebwank's view is, that if there is any secret in its culture, it resides in planting at "the psychological moment," and that that moment is to be found (if at all) in the spring.

I. BRACTEATA AND I. MACROSPADIX VAR. FLAVA.—These have been bloomed (and the latter at any rate, I believe, been distributed) by Herr Max Leichtlin at Baden-Baden. They are described by him in THE GARDEN (vol. xiv, p. 428), and apparently the same description applies equally to both species. I bought *I. macrospadix* var. flava last year, and have it growing apparently healthily, though not vigorously, in an artificial bog, but as it has not bloomed it is impossible for me even to guess whether I have got hold of the right thing. In Mr. Gerard's note quoted above it is stated that the yellow var. of this species is the commoner, though this does not appear from Mr. Baker's "*Iridæ*," who describes the plant as having "bright lilac" blooms, and makes no mention either of yellow or white varieties.

In conclusion, I may express a hope that some of the enterprising purveyors of these things will consider the possibility of importing seed and endeavouring to raise growable plants of these choice Californian Irises by that means. They may not be as desirable as Lord Anson's Blue Pea, but they possess, nevertheless, a good deal of interest to many of us, and (again referring to Mr. Gerard's note) I see it



Iris stylosa alba.

stated that they, together with *I. tenuis*, have proved untransferrable as plants even to California gardens.

J. C. L.

THE WEEK'S WORK.

KITCHEN GARDEN.

SEPT. 5TH.—It is a good plan to sow early in September a good breadth of Spinach, which will come in for the spring pickings earlier than any sown on the warm borders early in the year. By choosing and preparing now some ground that will not be wanted for a succeeding crop until late next spring, we can leave the wall borders for the many other things which require such positions and still get a supply of Spinach that will come in as a good succession to the August sown crop, which will by this time, if the demand has been constant, be getting past. I do not recommend any addition of manure to the soil for present sowing, but prefer Spinach to follow some crop for which the ground was well manured, as I find that the young plants come best through the winter on ground that has not been recently manured, and as this is something in the nature of a catch crop to fill a possible gap, I do not look for the very large bushy leaves which are produced at other seasons, and am well content if those produced are of fair size and good colour. I still advise that a light dressing of well pulverised gypsum be given, and that where the soil is heavy and the situation low, ridge the soil for drainage as described in *one* or two weeks back. When Onions or Strawberries had been the previous occupants of the ground, they will have left the surface too hard for Spinach to follow without some breaking up, and my practice is to mark out the site of each bed, then to break the surface with a fork to a depth of about 6 inches. Sift over this a sprinkling of the gypsum and then throw the soil from the alleys on to the surface, making the alleys more or less deep, according to the nature of the soil and position of the plot. Drills are then drawn, the seeds sown, covered, and again a sprinkling of lime is given. Where this sowing follows Potatoes or any crop which has had to be dug out of the ground, no further digging will be necessary, a fairly firm root-run being best suited to growth of a hardy nature. Main-crop Spinach will now be ready for thinning. It has had a fine growing time, as rain has fallen in plenty at last. Of the two varieties chosen, viz., Long-standing Frickly and Victoria Round, the former appears at present to be a little in advance of and deeper in colour than the Victoria, but it is too early to judge of their merits. Thin at first to about 3 inches apart and then postpone further thinning until the plants are well into the broad leaves. The thinnings will then be big enough for cooking, and the best and healthiest-looking plants can easily be seen and left, regularly in distances apart not being nearly so important as having a vigorous plant. Spinach keeping a crop in which individual plants vary greatly.

TOMATOES.—Every available means of hastening the development and ripening of outdoor Tomatoes should now be brought into use, and nothing is more likely to bring about the desired effect than to cover the plants with any spare lights that may be available, and which may be stood on end in an almost perpendicular position, so as to bring the glass as close as may be to the fruit, fastening them in some way to prevent their being blown over and smashed in case of wind. Previous to covering them in such fashion the plants should be closely looked over for lateral growth, which must be removed, and the points of any leaves may also be judiciously cut away to expose bunches of fruit to full light. This defoliation must not be done in a careless or a wholesale manner, as in this case it would only check the development we wish to encourage; and though fruits not yet commencing to colour may do so under the influence of extra sunshine which they get by cutting away the foliage, they will be found both hollow and badly flavoured and more like the cheap imported fruits we see. In cases where it is possible to admit light to the bunches by tying back the foliage and leaving it intact, I much prefer serving it in this way, more especially in a season like the present one when growth

has not been gross. Glazed lights are preferable to any other form of covering at present, as they add to the ripening powers of the sun and keep the fruits dry and free from splitting, and consequent decay in showery weather, but in places where they are not available, some covering material must be brought into requisition for use at night until the plants or the fruits are cleared from the walls, which should only be done when the nights get too cold to allow the fruits to swell any more on the plants, for those that reach full size before being plucked will with care ripen up later on and extend the season well into late autumn. Fruiting plants under glass which still unstoppered will be encouraged to go some further berries of fruit if they are undisturbed in vigour and show signs of ability to continue fruiting. Such plants if in a cold house and in pots should be removed to warmer quarters on the approach of frost, where they will still further extend the season. Those plants grown specially for winter fruiting will now have received their final shift into 8-inch or 9-inch pots, and the sooner they are got into their fruiting quarters the better they will be, as it will be possible to acclimate them to the closer atmosphere of the pit or house more gradually now than later. All the surroundings should be kept perfectly sweet and as airy as may be, while watering will need to be done with caution, an overdose from now onward being fatal.

BLANCHING SALADS.—Some of the earliest Lettuces if treated as previously advised will now be ready for salad or for cooking, but as it will not all be required at once, it will be advisable to add more soil to the ridges at the end of the rows which will come in last for use. This will give an increased length of blanched heart and add to the crispness of that already in an advanced stage of blanching. Cos Lettuces can no longer be depended upon to blanch their hearts thoroughly without assistance, even though they belong to the self-folding section, but if they are tied up while in a dry state, some ten days or a fortnight before wanting, a perfectly blanched heart will be the result. This is if the plants were to grow and flourish enough before being tied. The Broad-leaved Batavian Endive may be served in the same same way if cared for thus early and if full-grown plants are already available, as the broad outside leaves can be arranged to form a perfect cover for the hearts, and can then be tied in position. Curled Endive is not suitable for this method of treatment and must be covered, a few at a time according to requirements, with inverted flower-pots, pans or similar covering, and any holes in the same must be closed to prevent access of light. It is not wise to cover many at once, as they soon spoil after blanching.

MUSHROOMS.—Continue to collect manure for Mushroom beds, as it does not pay to allow too long an interval to elapse between making up the beds if a constant supply is important. I should like here to give a note of warning concerning the manure dropped after the horses have received the weekly bran mash which they get in some places. This manure should be discarded, as it will, if used, turn the whole bulk sour and unwholesome, and I look on it with equal suspicion to that I have for manure dropped after the horses have received physic in any other form. It may not actually destroy the producing powers of the beds, but I am convinced that it goes a long way in that direction.

GENERAL WORK.—Continue to hoe and weed amongst all young crops, as the rains and heat combined have given a considerable impetus to the weed crop, and the growing weather is also telling on cultivated plants, which are being rushed along quickly, but the equally rapid weeds liable to be choked by the quickly raised weeds will soon be in a position to go over the top bed and thus cover the young plants to such a number of the best as will cover the requirements, it being a short-sighted policy for the private grower to leave (as is sometimes done to

the detriment of the crop) three or four times the number of young plants that will be needed. A certain surplus should be left to allow for contingencies that may arise, but these do not warrant the excessively thick seed-beds often seen. Pick all Tomatoes from outside before they are fully ripe, as they will finish equally well and more safely in dry quarters under glass. Fruit allowed to ripen on the plants soon spoils in showery weather.

J. C. TALLACK.

FRUIT UNDER GLASS.

LATE VINES.—Careful attention will now be needed with all Grapes that are completing their ripening. In the case of Muscats, which require more heat to finish them well than most other varieties, a steady circulation should be maintained in the hot-water pipes during the day whenever the weather is dull, but they should not on any account be hurried by too much fire-heat, especially if a free circulation of air cannot be admitted, or shanking will follow. With bright sunshine the ventilators ought to be opened as wide as possible, but on cold, damp days a slight current passing through will be sufficient to move the air in the pipes, which will be heated even in cold, dull weather, as by so doing far more harm than good is the result. With proper attention Muscats may be got to ripen well in October if due attention be paid to the regulation of the foliage, so that all the light possible may be admitted. It is, however, well not to stop the laterals on the spurs carrying the bunches too closely, as these will assist in keeping up a better flow of sap till the fruit has coloured; at the same time, overcrowding of the foliage ought to be carefully avoided.

LATE HOUSES consisting of mixed varieties of Grapes are difficult to deal with, as some require more heat than others to bring the fruit to perfection. Madresfield Court, for instance, will colour well in a temperature of 50° by night, but there must always be a free circulation of air with a rather dry atmosphere. It does not do to allow any sudden changes in the temperature where this Grape is ripening, and no moisture should be allowed to settle on the berries, or cracking will be sure to follow. The bunches should be carefully shaded from the bright sunshine, or they will not colour satisfactorily. Mrs. Prince's Black Muscat, another variety seldom seen finished in perfection. To do this well a long season should be allowed for ripening, as, like the Muscat of Alexandria, it requires a brisk heat, with a free circulation of air, or the flavour will be deficient. There are many good-flavoured Grapes that are but little cultivated, except in establishments where quality has the first place. Such, for example, are Royal Muscadine, Muscat Hamburgh, West's St. Peter's, Alnwick Seedling, and Ferdinand de Leseppes. With these, very careful treatment must be given after the berries have commenced to colour, for the skins being thin, they suffer more from damp than other kinds. Where Grapes are grown for hanging till late in the season, a steady heat must be maintained in the hot-water pipes till they have finished colouring, with a free circulation of air both night and day. Strict attention must be paid to the borders, for on no account must they be allowed to get dry, or the berries will not finish properly. Water should always be given in the morning when there is an appearance of a hot day, but the superfluous moisture may pass off before nightfall.

RIPED GRAPES.—A sharp look-out must be kept in houses where these are hanging, both for mice, and damping. To guard against the first, bags should be used to put the bunches into as soon as ripe; they should, however, be of sufficient size to hang up all of the bunches that a circulation of air may pass through them. Mice should be trapped on their first appearance, and to avoid damage, take off the bags occasionally and remove any berries that may be the least affected.

EARLY HOUSES.—The foliage will now be falling from Vines that were forced early, but it

should by no means be hurried down till quite ripe. In such houses where the lights are fixtures, admit all the air possible by leaving the ventilators fully open both night and day. The borders should not be allowed to become too dry, or the roots will suffer, but as there is less activity, it will not be necessary to water very often. Where there is any doubt about the roots of Vines being in an unsatisfactory condition, the present is a good time to lift them. It is important to get such work done while there is still sufficient warmth in the soil and before the leaves have all fallen. Lifting Vine roots is no easy task, as it is an operation requiring much care, and, therefore, takes up a considerable amount of time. In most instances it would be far better to lift them out wholesale and plant afresh than to attempt renovation. I will give an example take an old Vine that has done service, say, for twenty years or more, and whose roots were not confined by a brick wall. If the soil twenty or even thirty yards away be examined it will be found that most of the roots have extended to the distance. If this be so, what is the use of cutting them off at 15 feet or 18 feet from the house? I remember an instance where an old vineyard stood against a kitchen garden wall, the Vines having done duty for upwards of fifty years, and finished their crop remarkably well each season, the roots having taken possession of the kitchen garden, some 30 yards away. They were particularly active in a piece that had been dug an extra depth and liberally manured for Onions. Had any attempt been made to lift them, failure would have been inevitable. I have seen Vines lifted which have taken two years to recover, the rods all that time occupying the valuable roof space that might have been devoted to another crop. If an attempt be made to lift Vines, it should first be ascertained if the work can be done profitably; if not, then it would be far better not to attempt it. Gardeners, as a rule, usually have to look a long way ahead, and those who are unable to sacrifice a crop would do well to start the Vines intended to be destroyed early, so that the crop may be ripe during the month of May. Preparations can then be made for planting young Vines in the manner before described. The cultivator need then have no cause to worry about not being able to keep up a supply, for healthy young canes are ready for planting by the time the old ones are ready to lift from 6 feet to 8 feet in length, well set with plump buds that will produce fine bunches. It is, however, well to overcrop at a start, or the Vines will be exhausted too soon. Where such is intended, preparations should now be made by getting the materials ready for new borders. Let me not be mis-understood about lifting, for often where the roots are confined in a narrow border they get down into the subsoil, and when such is the case it is seldom the Grapes colour well. If a trench be opened out close to the wall on the outside of the border and the roots gradually worked out of the soil, taking care not to injure them more than can be avoided, they may be brought nearer to the surface where the soil is warmed by the action of the sun. Before filling in with fresh compost see that the drainage is perfect and that there is ample outlet for the water to get away quickly. Should the weather be warm at the time of lifting, the syringe must be freely used to keep the roots moist, and damp mats ought to be in readiness for covering them with. It is preferable to choose a dull day if possible, as then the roots are not so liable to suffer from the drying influence of the sun. The soil should also be close at hand, that as little time as possible may be spent in completing the work.

POT VINES.—Those intended for early forcing will by this be shedding their foliage. The leaves should not, however, in any case be hurried off, for as long as there is any green in them they have a work to do in plumping up the buds. Take care that the soil in the pots does not become dry, for though root action is not very active, it is necessary that sufficient moisture be afforded to keep them plump and ready to start

afresh as soon as the plants are placed in heat. When all the leaves have fallen, the lateral growths should be cut off close to the rod, the latter being shortened to the desired length, that the wound may heal over before the Vines are introduced into heat.

H. C. PRINSE.

FRUIT AND VEGETABLE CROPS.

EASTERN.

Shadwell Court, near Thetford, Norfolk.

—Apples under average. Pears, Williams and early sorts, average; late, much under. Plums average on walls, standards nearly a failure. Cherries canker and die off. Peaches and Nectarines average. Apricots much under. Currents under, small, blighted. Gooseberries abundant. Strawberries average. Nuts average. Figs under average.

After a favourable winter spring vegetables very good; since then, from the long-continued drought, all crops have suffered. We lie high and dry.—J. CLARKE.

Barkby Hall, near Leicester.—The fruit crop in this neighbourhood, with few exceptions is a failure. We had 9° of frost the last day of March, which destroyed most of the blossom; winter moth and Apple blossom weevil were also very destructive. In our own garden we fight against these foes, and protect against frosts as much as possible, and we have good crops of nearly all kinds of fruit. Apples good, Pears moderate, Plums fair, Apricots good, Peaches good, Cherries good, Currents of both kinds and Gooseberries good, Raspberries good, Strawberries light, owing to frosty blossoming.

Vegetables are looking well in this neighbourhood. Potatoes especially. Onion grub very destructive in the neighbourhood, but there are good crops where the Onions were transplanted early. Peas are good, although the dry weather is telling on them now.—J. LANDSELL.

Grimsthorne, Bourne, Lincolnshire.—Considering how hot, dry weather we have had the fruit crops in this district are looking well. Strawberries have suffered most; the early kinds have done best. We had a very good crop of Royal Sovereign, Noble, Victoria, and De Thury, and Keens' Seedling. The later kinds did not swell their fruit owing to dry weather. Apples and Pears promise very well. Plums have fallen during the past fortnight, more especially from the trees on the walls. Peaches and Apricots were never better. There is abundance of Nuts.

The Potato crops both in the fields and gardens are looking well, and good sound tubers are now being lifted of the early kinds; the later sorts would further improve with a good moistening of the soil. The Peas have not done very well; being so dry, it is difficult for them to fill and midlewise is very bad. The season for early and second earlies has been short.—H. NAYLOR.

Scawby Hall, Lincoln.—The fruit and vegetable crops in this district are, with few exceptions, good. Gooseberries, Red and White Currants, Strawberries, and Raspberries are heavy crops. Black Currants are only moderate. Apples are medium. Pears, Plums, and Cherries are rather thin, so many having fallen off as soon as they had got nicely formed, which, I think, was the effect of some very cold nights the last week in May. Damsons are good, but the trees have suffered a good deal from green fly. Apricots are good. Figs and Peaches on outside walls good. Medlars good. Walnuts the heaviest crop I have known.

All vegetables, except Onions, which are patchy, partially owing to the dry state of the soil during germination and a most persistent attack of maggot, are good. Carrots, Beet, Parsnips, Leeks, Potatoes, and all salading have greatly improved since the late rains.—E. SEMPER.

Wilberham Temple, Camb.—I am sorry to have to inform you that our fruit and vege-

table crops are very poor indeed. Peas nearly a failure, the worst I ever knew; half a crop of early ones, and, I may say, not so many of later sowings. American Wonder did fairly well, also Seagull's No. 1, but all the others are very poor and up to the time of writing, No Plus Ultra, Veitch's Perfecto, Sharpe's Queen, Duke of Albany, and several others not worth looking at. Red Currants, rather thin crop; Black very good. Half a crop of Strawberries and Raspberries. Not many Apples, falling off owing to the want of rain. We have also a half crop of Pears. Dwarf Beans look like being a very short supply, also Runners.—C. POTTER.

Brahham, Cambridge.—The prospect for fruit this year was very good, but the season has not been favourable. Apples, Pears, and Plums are not a good crop. Some sorts of Apples are carrying good crops, most noticeable being Prince Albert, Dumelours', Greenish, Tower of Glamis, Mère du Ménage, Peasgood's, and Elizabeth, Red Joncquat, Braeban Bellicœur, Lady Somerville, Mr. Gladstone, Hoare's Morning, Ribston, Barmarck, and Gascoigne's Scarlet. These are all good, and some trees of Cox's Orange are good. Lord Suffield is best among Codlins. Eeklinville is a fair crop, not so free as usual. The Plums were in full blossom at the time we had a sharp frost, and being wet it spoilt them. Victoria, Black Imperial and Dymond are the best. Wall trees are carrying full crops. All the best sorts of Pears are a failure. I have not seen the insect pest or troublesome before, especially on Plums. Cherries are a good crop, and Apricots, Peaches, and Nectarines are good even on a north aspect, but they have taken a lot of trouble to keep clean by watering and syringing, the drought being very bad here. Red and Black Currants are a good crop, and Raspberries fair, but small. Strawberries were very good at first, but later sorts have been spoilt by drought. Nuts, Quinces, and Medlars are full crops.

The earliest vegetables have done well. Peas, Cauliflower, and Cabbage were very good, but since the drought set in it has been most difficult to keep up a succession. Cabbages were early and good; Ellam's Dwarf and Veitch's Main-crop being the best. I have had no bolting with these two, but of Enfield and Nonpareil growing under same conditions 90 per cent bolted. Sutton's Little Gem is very useful for spring sowing. Among Cauliflowers, Early Forcing and Walcheren are the best. Potatoes are turning out well and free from disease, but no doubt when rain comes they will grow out if not lifted.—J. HILL.

MIDLAND.

Madresfield Court, Great Malvern.—Apples are a light crop, partly owing to weakness caused from overcropping last year and partly due to a bad attack of Apple blossom weevils and caterpillars. The old Kewick Codlin is the best cropper in this neighbourhood, good dessert kinds being least abundant. Pears are much better, tree clean and good, although the Pear midge gives some trouble; the fruit will evidently be good. Peaches and Nectarines are very good; thinning has been badly done by the spiders, very persistent in the early stages and attacked the trees again and again in the most determined manner. Plums and Cherries suffered somewhat from their depredations, but crops were saved. Strawberries were a light crop and soon over, owing to the extreme drought. Gooseberries, Raspberries, and Currants were average crops, individual fruit being below average size. All kinds of fruit, without exception, were of the fullest flavour. Apricots were a full crop, which ripened very early, and of delicious flavour. The season altogether has been a very precocious one, with the smallest rainfall on record to date.—W. CRUMPT.

Coddington Hall, Newark.—The fruit crops in this district are under the average. There was a great promise in spring, but just when the fruit was setting, cold, cutting winds came, and Apple,

Pear, and Plum trees were suddenly changed from snowy whiteness to a dingy brown, the foliage also suffering proportionately. Plums in orchards and open gardens are yielding barely half a crop. Victoria, as usual, having stood the ordeal best. On walls the crop is better, Transparent Gage, Denniston's Superb, Oullin's Golden Gage, and the never failing Fershore Yellow Egg having good crops. Damsons are a very thin crop. Pears on walls hereabouts are much under average and the thinnest crop I have had for the past thirteen years. On espaliers, however, Pitt-maston Duchess, Beurré de Capiaumont, Jargonelle, Doyenne du Comice, Flemish Beauty, Souvenir du Congrès, and Beurré d'Ambreng are well cropped with good clean fruit. Apricots are plentiful, although on trees well mulched and watered many of the fruit cracks, owing, I think, to sudden and extreme atmospheric changes. The Apple crop will not be good, as was one time expected, great quantities of the fruit having fallen from the geometry Sorts that are best, as well here, are Duchesse of Oldenburg, Bramley's Seedling, Wall of Glamis, Lord Suffield, Devonshire Quarrenden, Cox's Orange Pippin, King of Pippins, and Sturmer Pippin. On espaliers, Stirling Castle, Lady Sudeley, Alexander, Cox's Orange, Irish Peach, Fearn's Pippin, King of Pippins, and Cox's Pomona are very satisfactory. Peaches and Nectarines on open walls are excellent, thanks to repeated washings in spring with quassia extract, the best and safest fruit tree insecticide. I know of root mulchings and liberal waterings, but the earwigs, of which I have already trapped thousands, will, I fear, spoil many of the best fruits as soon as they commence to soften. Cherries of all sorts were a very good crop, but the fruit was small, owing to lack of moisture. Raspberries have been very poor both in quantity and quality, the cutting winds early in the season being responsible for this. Baumberth's Seedling has done the best in this garden. Gooseberries were about half a crop, much havoc being wrought by the dreaded caterpillar, which, however, I always manage to stop by one or two good dustings of lime and soot applied immediately the pests commence at the base of the trees. The few fruits which get soiled can easily be washed before being used. Black Currants were only half a crop, but Reds have been a full crop and large. Strawberries are under the average, late frosts having ruined many of the earlier and best blossoms. In midland and northern districts Strawberries having abundance of foliage to protect the blossom are invaluable.

Vegetables in this locality have done very well, except early Potatoes, which were small, owing to insufficient root moisture. Later crops and those in fields are looking very well. The Pea season has been short, successive sowings following each other too quickly, especially on warm, shallow soils. Winter greens of all kinds look well so far. Tomatoes on open walls are doing capitally both in this and neighbouring gardens, Chemin and Regina being specially fine.—JOHN CRADWELL.

Ettington Park, Stratford-on-Avon.—Apples, Pears, and all stone fruit under average. The trees were severely taxed last year with such heavy crop. They bloomed well, but with such a dry winter and spring a great quantity of the fruit fell off. Black Currants and Gooseberries under the average. Strawberries, where well watered, are abundant, also Raspberries and Red Currants.

Respecting vegetables I cannot give a very favourable account. Potatoes are small, owing to the drought.—WILLIAM HAYDON.

Kirklevington Hall, Yarm, Yorks.—The fruit crops in this district are not heavy, but, on the whole, there is not much to complain of. The trees in spring were very thickly covered with bloom, but the dry weather throughout May was not conducive to a good set. Apples are an average crop on most trees, the best being Lane's Prince Albert, Stirling Castle, Manke, Keewick Codlin, and Cox's Pomona. Pears are an

average crop, some trees bearing heavy crops, Winter Nelly, Beurré Clairgeau and Clapp's Favourite being the best. Plums are up to the average, Victoria and Jefferson bearing best. Morello Cherries are a good crop, but small. Strawberries have also had a heavy crop. Vicomtesse H. de Thury and President have been splendid. Raspberries are a good crop. Gooseberries and Red and Black Currants are an enormous crop, but small.

Vegetables of all sorts are good. Peas are doing remarkably well, being all sown in trenches, Chelsea Gem, Dickson's First and Best and Earliest of All being my best for early work, Duke of Albany, Prizetaker, Prodigy, Sharpe's Queen and Telephone for mid-season, with No Flus Ultra, British Queen and Omega for late crops.—ALEXANDER CUNNINGHAM.

Warwick Castle.—Apples and Pears are a very irregular crop. In some gardens the trees are loaded, in others the crop is a failure. Rain has saved many, as has without dropping fast, the sun remaining on the trees sufficiently to be undeterred on account of the drought. Among Apples the following varieties are carrying the best crops: Irish Peach, Duke of Devonshire, Red Margaret, Lord Suffield, King of the Pippins, Worcester Pearmain, New Hawthornden, Lane's Prince Albert, Lady Sudeley, and King of Victoria County. The following varieties of Pears are also carrying good crops: Doyenne Bouscous, Winter Nelly, Beurré Bachelier, Durondeau, Williams' Bon Chrétien, and Flemish Beauty. Plums and Damsons are scarce, with the exception of Victoria, which is bearing good crops generally, and in some instances very heavy ones. Strawberries have given a heavy crop of fine quality, as colour and flavour were good. Raspberries, Red Currants, and Gooseberries very abundant. Black Currants average. Peaches and Nectarines about an average crop. Where watering has been well attended to the fruits promise to be good; where, however, watering has been neglected the trees have suffered badly from the attacks of black aphides, and the fruit is in consequence small. Apricots are a failure.

The Potato crop is an excellent one in every way, for although the tubers are not large, they are round and firm, and as yet I have neither noticed nor heard of the slightest trace of disease. Onions have suffered but little this year from the ravages of maggots, and the beds are the majority of gardens are even, although the bulbs prove to be small on account of the recent drought. Carrots and Beets look extremely well, and being deep rooters do not seem to have suffered greatly from want of rain. Runner Beans seem to delight in the recent tropical weather; the crop is abundant. Recently planted Cole-worts require rain badly; in fact, that is the one thing which is so greatly needed at the present time for vegetation of all descriptions. Where heavy mulchings with manure and occasional waterings were given, Peas have been good, but without such necessary attention the results have not been satisfactory.—H. DUSKIN.

Hardwick Hall, Chesterfield.—Apples very thin crop. Peas heavy crop. Plums very heavy. Damsons fair crop. Nuts very thin, except Walnuts, which are good. Gooseberries heavy. Red Currants extra good; Black Currants good. Strawberries abundant and large. Raspberries abundant.

Early Potatoes heavy and clean; late look promising. The best early is Ringleader, the best late The Brinkworth, which is especially good and floury.—E. WILSON.

Hopton Hall, Wirksworth, Derbyshire.—Apples, Plums, Cherries, Currants of sorts, Goosesberries of sorts and Raspberries exceed the crop of last year. Gunton Park Strawberry is very fine in colour, size and cropping. The old variety President has done wonders. British Queen has also been good.

Autumn and spring-sown onions are very fine. Potatoes are turning out clean and good. Peas are always a success, though never watered or mulched. Exonian has become a favourite.

Bilis's Abundance is a true amateur's Pea, early and good, being dwarf. Empress is a good all-round Pea. Alderman, now in full gathering, 8 feet, enormous crop and good. Alfred the Great, sown with Alderman, is a week or more later, but follows it closely in all other points. Duchess Pea is an enormous cropper and does well for late sowing. No Plus Ultra, when pinched in, nothing can beat. Walker's Perpetual Bearer is also a valuable Pea.—G. BOLAS.

Knowsley Gardens, Prescot.—Apples here are a very heavy crop, trees very clean and fruit fine and large. Pears are only moderate. These were a wonderful show and set, but owing to the long and severe drought they nearly all dropped off. Plums almost a failure. Peaches and Nectarines under average, but good. Cherries good. Bush fruit good. Raspberries good. Strawberries very good, but soon over. The best varieties here have been Royal Sovereign, Leader, Monarch, La Grosse Sucrée, James Veitch (extra), British Queen and Latest of All.

Potatoes are a splendid crop, being of good size and no diseased tubers. Peas, although it has been such a dry hot season, have been splendid and are still doing well. The following varieties have been found best: Early Chelms. Come, The Stanley, Eureka, and Early Marrow; midseason—Main crop, Dwarf Mammoth, Peacock, Royal Gem, and Stratagem; late—Windsor Castle, Autocrat, Sturdy, Chelsonian, and Veitch's Perfection.—ROBERT HARRIS.

South Lodge, Leek Wootton, Warwick.—Fruit and vegetable crops in this neighbourhood are, as the whole, very good. We have had a splendid crop of Strawberries. Raspberries, Currants and Gooseberries abundant. Apricots, Plums and Pears good crops. Apples rather thin on light soil, on heavy very promising.

Vegetables on the whole very good.—J. W. HAUKE.

Euston Castle Gardens, Derby.—The fruit crop is remarkably good considering the enormous burden of last year. Many of the best sorts of Apples are bearing heavy crops, such as Blenheim, Cox's Orange, Washington, Lady Sudeley, Northern Spy and Cornish Gilliflower. Kitchen kinds are also good, amongst the best being Lord Suffield, Domino, Peasegood's, Northern Greening and Rymer's, but owing to the drought they are under-sized. Pears, which are deeper rooting than Apples, are good; such sorts as Williams' Bon Chrétien, Louise Bonne, Beurré Hardy, Beurré Diel and Bergamots are heavily laden. I do not think we have a barren tree; some of the newer sorts promise well. Dr. Jules Guyot, Rivers' Beacon, Magnate, and Triomphe de Venise are bearing heavy and fine, clean fruit. Strawberries were moderate in size and quantity, but the quality very good. Royal Sovereign promises to be a great acquisition as an early forcer, setting freely and keeping fairly well after being ripe. Apricots are a good crop, also Plums on walls with west aspect. Both sweet and Morello Cherries are excellent. Nuts are plentiful. Walnut trees are breaking down with their heavy burden. Gooseberries, Raspberries and Currants are good.—J. H. GOODRICK.

Kingwood Grange, Warwick.—Apples in this district are generally light. A few standard trees of Lord Suffield, Devonshire Quarrenden, Blenheim Orange, and Wellington are carrying average crops; bush trees are in most cases very light. Pears, as a rule, are clean and good; the best are Beurré d'Amans (good crop), Williams' Bon Chrétien, Jersey Gratiot, Louise Bonne of Jersey, and Forelle, principally on standard trees; wall trees and espaliers very poor, but the fruit is fine and good. Plums have suffered very much from heat and red spider; consequently the fruit is very thin and of poor quality. A few standard trees of Victoria and Magnum Bonum are carrying a fair crop of clean fruit. On walls Plums are much below the average crop. Damsons in some instances are fair, but not a tithe of last season's crop. Cherries are not grown extensively in this neighbourhood. May Duke was about

an average crop, other varieties almost a failure. Strawberries a heavy crop, La Grosse Sucrée, Royal Sovereign, Sir J. Paxton, and President being very fine. Gooseberries a fair average crop, clean, and of good quality. Raspberries were good the early part of the season, but the weather being so dry they were soon over. Red Currants very light in these gardens this season; the birds were very troublesome and destroyed most of the buds. Black Currants rather small. The trees are very much blighted and have also suffered from the prolonged drought.

Vegetable crops in this locality are anything but promising; everything is suffering from want of rain. All green vegetables have to be watered to keep up the supply. Peas are going off prematurely, also Broad Beans, which were not watered French and Runner Beans are showing signs of disease. Early Peas did fairly well. One exception was Dickson's Harbinger; this sown past all the other varieties I grow in every point. It was tested side by side with two standard varieties sown at the same time. Early Potatoes have turned out well considering the dry season; Sharpe's Victor and Early King leader were ready early in June and gave a fair crop of good-sized tubers.—H. SLARK.

Alderton Hall, Derbyshire.—The fruit crops in these gardens are very good. Apples a very good crop. Apricots a good crop. Peaches and Nectarines a good crop. Pears a very fair crop. Plums half a crop. Damsons poor, owing to the blight. Strawberries, Raspberries, Gooseberries, and all small fruits an abundant crop. Fruit trees of all sorts promised an abundant crop in the spring, but the severe frost on the night of May 20 destroyed a very great deal, especially those in an exposed position. The crops in the neighbourhood seem to be very good on the whole. Apples in some places promise to be a very heavy crop.

Vegetable crops look very promising, excepting Cauliflowers, which have been attacked badly by the grub. Early Potatoes are very small. Late Potatoes promise well. Peas in this garden were very early this year; the earliest was Veitch's Selected Early. I sowed inside on January 23, planted out on a good south border on March 4, and picked on May 21. I consider very early for Derbyshire. I had William the First sown on March 4 and Veitch's Earliest Marrow Pea on the same date, and the latter was picked the same day as William the First. So in future I intend to grow the Earliest Marrow Pea for a first early; it is a very good Pea. Dr. MacLean is one I grow rather extensively. Sharpe's Queen does well here also and looks very promising and very robust, but No Plus Ultra I grow for the mid-season and late crops; in fact, I cannot find any Pea to surpass it in flavour. Duke of Albany I find a good Pea, but not such a cropper as many of the others. Sutton's Al does very well, also Telegraph and Telephone.—G. M. KNIGHT.

Connington Castle, Peterborough.—We have suffered very much here from the drought, our total rainfall for six months ending June 30 being only a trifle over 6 inches. I did very well, however, with early Peas, the three varieties chiefly used being American Wonder, which cropped splendidly, Dickson's First and Best, also a good cropper, and Exonian. The second crop failed entirely, as through stress of other work I was unable to give it the necessary assistance. This consisted chiefly of Duke of Albany and Sharpe's Queen. Fortunately, I had a good bed of Canadian Wonder Kidney Beans, sown in March under portable lights, which cropped steadily and just came in right to fill the gap. The new crop of Exonian looks most promising, Autocrat, No Plus Ultra, and Dickson's Champion Marrowfat growing very strongly. For late sowing I have found nothing to equal Dickson's First and Best, as it is a splendid cropper and of good flavour. It has been a very difficult matter to get Turnips at all up to the present, but with the welcome showers we have just had I hope soon to succeed. There have

been a good many complaints about Cabbages bolting this year, but I have been very fortunate, and out of a large bed only lost about a dozen. I grew Dickson's First and Best, which is a famous Cabbage, Ellam's Dwarf and Wheeler's Coco-a-nut. The only fault to find was, the second-named variety stood no time before it split.

There is a fair crop of fruit all round here. The greatest diligence is required to keep the fruit from being destroyed by earwigs.—HARVEY W. DAWE.

NORTHERN.

Easington Park, Northumberland.—In this immediate vicinity few Apricots and Peaches are grown, but they are better than usual this year. Apples and Plums are also good. Pears are thin, and most of the blight being destroyed by frost on the morning of April 15, when we had 11°. Cherries are abundant, but small.

Among vegetables, both Carrots and Onions have suffered severely from the fly. Potatoes have grown well, but the early varieties are suffering from the effects of the long and continued drought. Among early Peas, William the First is still a popular sort, but Sutton's A 1 is my favourite after trying several varieties. When more plentiful I believe it will be much grown; it is a strong, healthy grower, capital cropper, and being a wrinkled Marrow is superior in flavour to William the First and is ready to gather at the same time as that useful sort. For midseason, the old Forty-fold is still my favourite. This variety is far too little grown. Among late varieties, Ne Plus Ultra has no rival; I generally have it from 8 feet to 10 feet in height, crop heavy, and the flavour and appearance when cooked are unapproached.—J. OLIVER.

Worsley Hall, Manchester.—Bush fruits are a good crop, of excellent quality. Strawberries much injured by late frost, all best fruits destroyed. Apples under average, much fruit having fallen late on account of the unusual drought. Pears a very thin crop, partly in consequence of the heavy crops last year, partly injured by spring frosts.

Pears do unusually well. I always have plenty left destroyed by frost. I attribute this partly to our humid atmosphere and partly to the absence of lime and the presence of iron in the soil. I have discontinued growing many of the old sorts, but still stick to Champion of England, William the First is our best early; Duke of Albany next, in every way a grand Pea; Gladiator is a fine dwarf sort, a wonderful cropper, good quality and flavour. I also think highly of Veitch's Main-crop, better than Veitch's Perfection, which I cannot now grow to my satisfaction. Cheloneion is an improvement on Ne Plus Ultra (which I always considered one of our best varieties), a tall grower, but a good bearer, fine in size and extra in colour and flavour. Telephone crops freely, but is soon exhausted. I always grow Peas in prepared trenches 5 feet apart with Spinach between; this gets cleared off before gathering time and does not interfere with the crop. I seldom use any artificial manures, being satisfied with the results from a fairly liberal dose of farmyard manure and an occasional watering with weak liquid.—W. B. UPHORN.

Hockwold Hall, Lesbury.—The fruit and vegetable crops in this district present on the whole a promising appearance, owing to the fitness of the spring. Gardeners and farmers were able to put the seed in the ground under the most favourable conditions, but the drought this season has been quite phenomenal. From January 1 to June 30 the total rainfall was only 8'19 inches, or about 6 inches short of our average. The effect of the drought has been disastrous on the Strawberry crop of light ground, but on good retentive soils the fruit is turning out well and prices very remunerative. The following varieties do well here: President, Kew's Seedling, Auguste Boissolet, Kitley's Goliath, Scarlet Queen, Noble, The Captain, and Sensation. Red and Black Currants, Gooseberries, and Raspberries are giving us very

heavy crops. Raspberry Superlative is in every way the best grower and cropper I have tried, and quite outstrips other varieties for either dessert or preserving. Apples are a heavy crop here; some of our best are Hunthouse, Domino, Beauty of Moray, Fullwood, Stirling Castle, Lanes's Prince Albert, Warner's King, Ecklinville, and Prince of Wales. Pears are also good. Plums a full crop—better than we have had for years.

The outlook for farmers is at present very satisfactory. Potatoes are healthy, and at this season of the year never looked better. Early crops are lifting well and good in quality. The hay crop is a variable one. Turnips are likely to be an abundant crop. The cereal crop is expected to be a fair average, although straw may be a little short.—D. INGLIS.

Kimbolton Castle.—Apricots and Peaches are an average crop. Apples a heavy crop, but fruit small. Strawberries an average crop, but owing to the dry season soon over. Cherries, with the exception of Morellos, are under average. Raspberries a fair crop. Plums scarcely any. Black Currants very good, but Red and White very poor crops. Gooseberries a middling crop. Fifers an abundant crop and fine.

Potatoes were fair, but deficient in size. Peas in many instances have been a complete failure owing to the dry season. Onions looked well, but are now attacked with mildew and going off. Scarlet Runner Beans promise to be a good crop. Among early Peas I find Exonian a very good one, with William the First for a second early. Gradas is very good for general use, and No Plus Ultra for late crop.—J. HEWITT.

Gawthorpe Gardens, Burnley, Lancashire.—Crops on the whole here are not so good as last year owing to the very long spell of dry, hot weather. Peas look about the best of the vegetable crops. For a mid-season Pea, Senator is the best I have grown.

Apples, Pears and Plums are never good here, but this year we have none. Morello Cherries came off in the stoning, so we have just about half a crop. Strawberries a good crop, also Red Currants, but Black very thin. Gooseberries a light crop.—S. MCMASTER.

Abney Hall, Cheshire.—We have just finished the Strawberry crop. It has been an average one and of good quality, as very few of the fruit damped owing to the fine weather. Gooseberries are our heaviest crop; other small fruits are about average. Cherries are very thin. Plums are under average. The Czar and one or two other kinds have a fair sprinkling of fruit. Pears in the majority of cases are a complete failure, and Apples are a very thin crop.—R. MACELLAR.

Elmet Hall, Leeds.—Apples of the following kinds have an average crop: Keswick Codlin, Lord Suffolk, Potts' Seedling, Yorkshire Beauty, Domino, Stirling Castle, Margil, and Ribston Pippin. Pears and Plums are below the average. Cherries average, Morello good. Strawberries above average, Royal Sovereign, Auguste Nicaise, President, and Vicomtesse H. de Thury especially fine and good. I always mulch very early in spring with manure, consequently the plants do not suffer from drought, as no doubt they would have done this year. Gooseberries and Currants above average. Raspberries average, though rather small.

Potatoes are exceptionally good, clean, and good in quality, with fully average crops in the early varieties; later kinds look equally promising. Scarlet Runners and French Beans early and good. Cabbages good. Cauliflowers rather small. Lettuces especially fine, both Cabbage and Cos. Carrots and Turnips good. Spring Onions are very small, but autumn sown are up to the average. Globe Artichokes are very abundant and good this year.—THOS. BONSALL.

Capesthorpe, Chelford.—The fruit crops in these gardens here and district are very satisfactory. Strawberries have been a very heavy crop and fruit finely coloured. Apples and Pears are a heavy crop, quite equal to last year, and the trees look in splendid health. Black and Red Currants,

Raspberries and Gooseberries are very good. I never before saw finer Red Currants than we have at present. Damsons—a large quantity of which is grown here—are under average crop, and the trees look very ugly, being much blighted. Other varieties of Plums are a very good crop.

Vegetables, despite the long succession of dry weather, look very well. Early Potatoes are turning out very well, with fine, clean tubers. Late varieties look in capital health. Peas are doing well. For early work I sow Dickson's First and Best, Dickson's Harbinger (a fine new wrinkled variety), William I. and Exonian. The last I find to be the earliest. For second early I sow Duke of Albany, Sharpe's Queen, Sharpe's Paragon, Telephone, and The Duchess. These I find to be very useful Peas. For late work, I grow Autocrat (a splendid late wrinkled variety) and Ne Plus Ultra.—AUGUST DEWAL.

Castlerigg Manor, Keswick.—Apples here are a fair crop. Pears under average. Plums good. Walnuts good. Strawberries light crop, Vicomtesse H. de Thury having done best. Black and Red Currants are very good. Cherries light. Gooseberries good.

Potatoes, early sorts very good, late sorts looking well; no disease as yet. Peas, owing to dry season, have not done well, mildew being very troublesome.—M. HAUTWELL.

Lowther, Penrith.—Apples are a very thin crop indeed, much below average. There was abundance of bloom. Owing to the hot and very dry weather we had here during May and the early part of June, maggot was very bad on most of the trees, in many instances quite destroying the crop, and causing a great check to the present year's growth of wood. Pears are below average. Plums are above average. Apricots and Strawberries average crop. Cherries and Raspberries above average. Gooseberries and Currants are an excellent crop.

All vegetable crops, with the exception of Cauliflowers and Turnips, are turning out well. Wireworms have been very prevalent amongst the former and by amongst the latter, owing to the hot and dry weather we had during May. Our best Peas are: early, American Wonder, Kentish Invicta and William I.; mid-season, Telephone, Telegraph, Gradus and Dr. Maclean; late, Ne Plus Ultra.—F. CLARKE.

Eden Hall, Langwathby.—With this quite unusual spring in the north all fruit and vegetable crops here are early. Very heavy crops of fine fruit are to be seen all round this neighbourhood. Apples are a tremendous crop, as also are Plums. Pears are a good crop. Gooseberries and Currants are abundant, and Raspberries very heavy and extra fine. Strawberries are a heavy crop of fine fruit, the best sorts here being Vicomtesse Héritard de Thury, Sir Joseph Paxton, and President. Apricots are a good crop of nice fruit. I mulched the trees in the early spring, and have since watered repeatedly with manure water. Cherries are a good crop also.—ARTHUR C. SMITH.

Oakwood Grange, Rotherham.—Pears about here are a complete failure. Apples are much better; the drought does not seem to have affected them. Plums and Cherries are also very scarce in this neighbourhood. Of Gooseberries, Strawberries, and Currants there is a good crop. I have myself a fine crop of Peaches; colour and quality both good.

Peas have suffered very much from the want of rain.—ALFRED CARPENTER.

Hockwold House, Preston.—We have had very heavy crops of small fruits, such as Strawberries, Raspberries, Gooseberries, and Red Currants. Black Currants poor. Early Apples fair crop, late varieties heavy crop. Pears very good. Victoria Plums very heavy crop, other varieties fair. Damsons fair.

Vegetables are very good considering the dry season. I have had a very good crop of early Peas. American Wonder, Dickson's First and Best, and William I. are the best. Of midseason and late kinds, Dr. Maclean is very good. Duchesse I do not care much for. Duke of Albany

I consider the best of all Peas, and no one should be without it; the flavour is excellent. I also grow MacLean's Best of All, Sharpe's Invincible, and Veitch's Perfection. Potatoes are good. Onions are a failure with me, but very fair round the neighbourhood. Carrots fair. Beet very good. French and Runner Beans very good.—W. N. WOOD.

Alnwick Castle.—The Apple crop in orchards is very light. Lord Suffield, Lord Grosvenor, Grenadier, Eeklinville, Dumelow's Seedling, Lane's Prince Albert, Duchess of Oldenburg, and Domino are bearing well. Ribston and Cox's Orange good on walls. Apricots are a full crop, with trees very healthy. Moorpark, Large New Early, and Shipley are a trio, I should say, difficult to equal; the young tree fruit quickly and regularly if not over-cropped. Breda is much earlier than either of the above, fine for preserv-

the drought in spite of heavy mulchings and waterings. Apricots good. Cherries, dessert kinds, good early crop; Morello's heavy crop. Black Currants I have never known better, while Red and White are very good. Raspberries are exceedingly good; the variety Superlative is a grand cropper and the fruits of great size. Strawberries set a heavy crop, but the fruits were small. Gooseberries good.—C. BAILEY.

STOVE AND GREENHOUSE.

INDIAN AZALEAS.

The illustration here depicted shows the value of Azaleas for conservatory and greenhouse decoration. The plant illustrated cannot be



A double-flowered Indian Azalea. From a photograph by Miss Tempest, Broughton Hall, Skipton-in-Craven, Yorks.

ing. Plums are average crop. Cherries on walls are good, May Duke very good. The Morello has cast a large quantity of fruit. The Pear crop is very irregular. Gooseberries very heavy. Whitesmith, Whinham's Industry, Keepsake, and Early Kent are fine market varieties. Black Currants, Raspberries, and Red Currants are good crops. Strawberries in the fields are not so heavy as last year. McMahon is the one kind to be relied on for regular cropping. Vicomtesse always crops and is of fine flavour here, good for preserving. In gardens Royal Sovereign promises to do well as first early.

Early Potatoes are rather small. Late crops are looking well. Puritan is a good second early.—G. HARRIS.

Windlestone Hall, Durham.—The fruit crops here and in the neighbourhood are very good. Apples and Pears a heavy crop. Plums a good average crop, but many dropped owing to

less than fifty years old and has flowered in the same pot for fifteen years. The flowers are semi-double, of a deep salmon colour, the foliage entirely hidden with the masses of bloom. Standing in a vase with a background of rich green, it was greatly admired. Each year it receives after flowering several dressings of artificial manure with occasional waterings of weak manure water. Undoubtedly the failing with the future growth of imported Azaleas is due to several causes—first, in not giving immediate attention to the plants after flowering, viz., to pick off the seed-pods, and place in a warm, moist house—the north side of a low span-roofed is the best, as far from the hot water pipes as possible; with abundance of moisture by syringing and damping down, watering at the root will be reduced to a minimum. With

several applications of some artificial manure, plants imported will in the first year have doubled in size, a sharp look-out being kept for the appearance of thrips, which must be stopped at once. Last season's imported plants thus treated will now be well set with plump buds, and have vigorous healthy foliage. On removal to cooler quarters the change must be gradual both as regards air and moisture, otherwise much loss of leaves will be the result. Another frequent cause of unhealthy plants is overwatering, especially during the first year after potting. From the time imported plants are potted and until they get well established the greatest care is needed in watering. No toy should ever be allowed to do this; on the other hand, extreme dryness must be avoided against.

Of the earlier kinds, *candidissima*, Duchess of Edinburgh, *narcissiflora*, fl.-pl. &c., kinds that grow so well, will have been removed to cooler quarters weeks ago, there being no difficulty in having them well in flower by the new year. Large specimens will give a supply of cut bloom for fully three months. Added to their value for cut bloom at a time when flowers are none too abundant, the length of their flowering season and their rich and varied colours render them the most beautiful and desirable class of plants for the embellishment of both conservatory and greenhouse.

J. R.

Broughton Hall.

Draecna Sanderiana.—Although when grown singly this does not spread sufficiently to make a useful plant, when three or more are grown together it is very effective, and being of easy culture and not at all inclined to run out or lose the pretty silvery white variegation, it should become a popular plant. Many plants with white variegation are much inclined to run out, but as far as my experience goes this Draecna is constant. I find cuttings strike freely in the stove propagating pit, and after the first tops have been taken from the plants they soon break out again and give a further supply. They are not advisable to keep the plants cut back too closely. They should be allowed to grow to a good height before taking the first top, and when they start again the next cutting may be taken off close to the old stem. After the first few cuttings have been taken the plants should be let make a good growth before cutting again. By careful treatment the same stock plants will last a long time. Potted in a light compost and grown in a moderate stove temperature they soon make nice plants. If rooted singly in small pots they may be put together when ready for potting on, or they may be grown on singly until required for use, and then put together. Six plants put together into a pan when they are from 15 inches to 18 inches high are very effective in groups of mixed fine-foliated plants, and will be found to stand well. *Phrymum variegatum* and *Cyperus alternifolius variegatus* are both very pretty silver variegated plants when in good condition, but, unlike the Draecna, they are much inclined to run out, especially the *Phrymum*, which I find many people fail to grow satisfactorily.—A.

Nerine Fothergillii major.—Many cultivators of Nerines complain that they find it difficult to grow them. Some fifteen years ago I saw the splendid lot in bloom at The Dell, and was so charmed with them that I resolved to grow them, and have done so ever since. When I took charge here some eight years ago I found a 6-inch pot with three bulbs in it. I took it in hand and now I have four pots full, the largest an 8-inch one. This is twenty bulbs in it, and at the present time there are six full bloom and are bearing thirteen spikes, which are each from 2 feet to 2½ feet long, the heads proportionately large. It is wonderful how strong these stems are. This plant was taken to a flower show in an open cart a distance of four miles, and it did not need staking. With this rough treatment not one of the

blooms was broken. I find no difficulty in its culture. When the blooming is over these bulbs are placed on a cold viney shelf close to the glass and allowed to remain there during the winter, giving abundance of water. When the growth is well advanced, I give the plants sprinkling four or five times during the growing period of artificial manure. This greatly assists them to make good leafage. In the spring, when the weather is warm enough to allow it, the plants are placed in the cold Peacock house on a shelf which is near the glass and close to the front lights. In this position the manure is used, and the foliage ripens under withheld manure and they are allowed to stand dry for several weeks. I never water them, however dry, till they begin to show their flower-spikes, and then only gradually. When coming into bloom they are removed to the greenhouse. The bulbs, when they get too crowded, are shaken out as soon as the blooming is over, divided, and potted again into whatever size pots they are most useful in. The soil I use is a sandy loam with a little peat added, according to the nature of the loam. With this I mix a little fine charcoal and some very fine bones, potting firmly and giving good drainage.—J. CROOK, *Forte Abbey*.

ACHIMENES.

Most gesneraceous plants are remarkable for the great beauty of their blossoms, and some of them, such as *Gloxinia*, *Streptocarpus* and *Gesneras*, are in many places grown in considerable numbers. The same may to a certain, but more limited extent be said of the different Achimenes, for while in some gardens they form one of the showiest summer features to be found therein, in many they are conspicuous only by their absence. Perhaps this is in some instances owing to the fact that Achimenes are considered to require a large amount of heat for their successful culture, which is by no means the case, and also that they are not of much value for cutting, which is by many regarded as the one thing necessary, for the majority of purchasers now-a-days, when any plant is brought under their notice, inquire at once, "Is it a good thing to cut from?" Though in the case of Achimenes, this can scarcely be answered in the affirmative, yet they are very beautiful when grown as large specimens, as bushy plants in pots 5 inches or 6 inches in diameter, or more particularly in suspended baskets, as in this way they are highly satisfactory.

In commencing the culture of Achimenes the better way is to purchase some of the small scaly tuberous during the winter months when dormant, as they can then be easily sent to any distance by post, and so quickly reach their destination. They may be laid in pots or pans and just covered with soil, when on the return of spring, if kept slightly moist and in a warm greenhouse or intermediate temperature, they will quickly start into growth. When the young shoots are about an inch long is a very suitable time to remove them to the pots, pans, or baskets in which they are to flower, as if it is done at first the soil is apt to get sour before the roots take possession of it. A light, open soil in which well-decayed leaf-mold plays a conspicuous part is very essential to the Achimenes, and it should also be borne in mind that the young foliage is very sensitive, especially when grown in heat, and is particularly liable to the attacks of insects and also to be injured by an excess of sunshine. Fumigation requires to be very carefully done, and I have known many plants suffer in this way, but the introduction of the X.L All fumigator has done away with all this risk, and when the plants are in full flower the insects may be destroyed without injuring even the delicate

blooms. Of course, where Achimenes are required to bloom as early as possible they must be started in a stove temperature and hardened off afterwards, but for summer blooming in the greenhouse they may be grown comparatively cool all the time. The drainage should be thorough and the watering carefully done, especially in the earlier stages, but as the pots get full of roots weak liquid manure will be of service. The fact that many of the beautiful Gesneras may be grown with little or no heat is very apt to be overlooked, but such is the case, and I recently saw a fine batch of Gloxinias that had been wintered in company with tuberous Begonias in a greenhouse, and when started into growth they were potted and placed in an ordinary cold frame, and in pots 5 inches in diameter they were flowering beautifully. Of course care was taken to shut them up early and to maintain as far as possible a humid, growing atmosphere. At the end of July many of the plants were full of flower, and very valuable for the greenhouse. Seeds of these different gesneraceous plants are as a rule easy to obtain, and in nearly every case the plants so obtained will flower in a short time. Whether it be *Gloxinia*, *Achimenes*, *Tydeas*, *Gesneras*, or *Streptocarpus*, the seeds should if possible be sown in February in a stove temperature, and the young plants encouraged to grow away quickly. The seed is so minute that a little extra care in sowing it is necessary; hence the soil should be passed through a sieve with a quarter of an inch mesh, and the rough portion may be placed over the crocks in the bottom of the pot or pan for drainage. The soil having been levelled and pressed moderately firm the seed should be sown thinly but regularly thereon, and the whole covered with a pane of glass till germination takes place. Care must be taken that the sun does not shine on the glass, otherwise the tender seedlings will be roasted. This caution is particularly necessary, as I have seen many young plants lost in this way. The after-treatment consists in prickling off when large enough and in potting when necessary, the other details being mere matters of routine.—H. P.

These used to be grown much more than now. Some twenty-five to thirty years ago they made quite a display at summer and autumn exhibitions. Many people are under the impression that they need a stove or very warm house to do them well, but this is not so. Anyone who has a garden frame may grow them quite well. Some years ago, when residing in Purbeck Isle I used to grow them in this way and have never had better success. I used to store them in a cold greenhouse during the winter. In spring they were shaken out and potted into their blooming pots. When the corms were potted they were placed in some garden frames that had been placed on a hotbed for growing Melons. The Melons were planted on a ridge at the back of the frames and the Achimenes pots in front. In this position they needed but little water and came up strongly. When the Melons needed the room the Achimenes were placed in a frame on an old spent hotbed till they came into bloom, giving them abundance of air at all times. When they showed flower they were removed to a greenhouse, and here they bloomed over a long period. During the last seven years I have grown them in a similar way, and now (end of August) have some grand pans full in a cold greenhouse.—DORSET.

Habrothamnus coccineus.—A short time ago, when writing of the species of *Habrothamnus* I grew, I mentioned *Iochroma coccinea* or *H. coccineus*, a kind I think seldom seen. I now send a spray of bloom. The plant was raised from seed some years ago and is now flowering for the first time. The colour is generally described as scarlet,

but it is really pink. The foliage is large, and it would, it appears, if allowed room, attain the dimensions of a small tree. I send also a bloom—a single specimen which happens to be the last on the plant—of a kind whose name I do not know. The flowers are light yellow with a green mouth, and the foliage is smooth and glaucous. *Cestrum aurantiacum*—a very old member of the same family and now rarely grown—has also been flowering here.—J. M., *Chesham, Bucks.*

Hippeastrum reticulatum.—The early part of the year is the season at which the numerous hybrid forms of Hippeastrum or Amaryllis, as they are very generally called, produce their gorgeous blossoms, but the above-named species is quite distinct from that section in several particulars, more especially in the fact that the foliage is evergreen and the flowers are borne at this time of the year. As a fine-folaged plant *H. reticulatum* is very pretty, though the deep green leaves have each a broad white midrib, while the flowers are of a bluish-white colour, soft and delicate, and variegated with red. It must not be dried off, as the other kinds are, owing to its evergreen character; but needs to be treated much as the general run of stove plants. *H. reticulatum* is a native of Brazil. Several hybrids have been obtained between *H. reticulatum* and other species, one of which—Mrs. Garfield—was the subject of a coloured plate in *THE GARDEN* as long ago as April 7, 1883. If *H. reticulatum* could be induced to flower more freely than is usually the case, its value as a decorative plant would be greatly enhanced.—H. P.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

ROYAL AQUARIUM, SEPTEMBER 1, 2, 3.

The display made by the Chrysanthemums was about equal to that of most years, and the flowers looked somewhat dingy and uninteresting when compared with the vivid colours of the Dahlias and Gladioli. Many of the exhibits were cut and cut flowers which had been grown outdoors, the damage to the flowers by the recent heavy rains being very noticeable in the specimens staged. The prizes in the Chrysanthemum classes are offered by the National Chrysanthemum Society, who also contribute an additional sum of £10 towards the Dahlia and Gladiolus classes. The present exhibition has again emphasised the necessity for fixing the date at least a week later; in fact, it would be far better for it to take place nearer the middle of the month. The earliness of the show causes a display of very indifferent blossoms, a large number of growers being unable to make an exhibit, owing to many of the best of the early sorts being only partially developed. Chrysanthemums are generally better appreciated a week or two later, but, unfortunately, many of the better sorts and those of good colour (also possessing other good points) are rarely brought into prominence, owing to want of a proper opportunity of exhibiting them. By fixing the date of the September exhibition a week later, Dahlia growers would surely find the time quite convenient, while the interests of the Chrysanthemum growers would be better served and the prospect of a better display probable.

CHRYSANTHEMUMS.

The class for twenty-four bunches of Chrysanthemums brought out two competitors, Mr. E. F. Such, Maidstone, being placed first for large bunches of hardy outdoor sorts. The Japanese varieties were represented by Mme. De Grange, Mons. Gustave Grunerwald, Harvest Home, G. Wernig, Mme. Marie Masse and Mrs. J. R. Pitcher. Of the pompons, the best were Golden Fleeces, Mme. Jolivart, Blushing Bride, Mr. Selby, Flora, Anastasia and Hippolyte Jamain, which was in good form and useful for outdoor work. Mr. Chas. Shaw, Hall Street, Sherwood,

Notts, was a good second, having smaller bunches, but cleaner and better coloured examples than those staged in the first prize stand. In this exhibit Vicomtesse d'Avone, M. Dupuis, Mme. Carmaux (white, slightly tinted mauve), and Norbert Puvrez (a pretty golden salmon flower) were amongst the best. Of the pompons were Golden Shah (rich golden yellow), Longfellow and Bronze Bride (a light bronze sport from Blushing Bride). For twelve blooms of Mme. C. Desgrange there were five competitors. The first prize was easily secured by Mr. B. Calvert, gardener to Mr. J. Archer Hobson, of Ellingwood Place, Highgate. Sandford, with magnificently simple, the flowers measuring about 4 inches in diameter and correspondingly deep, Mr. J. Sandford, gardener to Mr. G. W. Wright, Ingleswood House, North Finchley, being second with nice fresh blooms. The class for twelve of a large-flowering variety, except Mme. C. Desgrange, resulted in Mr. Calvert being placed first with typical blooms of Geo. Wernig, fresh, clean, and full, Mr. Sandford securing second place with much smaller, though pretty flowers. Only one competitor entered for twelve bunches pompons, three blooms in each bunch, Mr. C. Shaw being placed second for rather small and indifferent specimens of Blushing Bride, Mine. E. Lefort, dark yellow and red, Florrie Parsons, Mme. Gabus, White Lady, Bronze Bride, L'Amie de Conderchet, Piercy's Seedling, Duchess of Fife, Ross Wells, Longfellow, and Jacintha. Mr. Shaw secured second prize for three blooms each of three large flowering varieties not mentioned in any other class. This was a new class this year, the object being to bring into prominence some of the new forms of the Japanese kinds. Mme. M. Masse, Mons. Gustave Grunerwald, and Norbert Puvrez were the three varieties staged. Mr. James Witt, gardener to Mr. Henry Bell, Finsbury's Arms, Hampstead, N.W., secured premier honours for six bunches of any yellow variety of Mme. C. Desgrange, with fine and clean flowers of Golden Mine. Desgrange somewhat heavily grouped on a small Chrysanthemum board. Six bunches large-flowering varieties, excluding Mme. C. Desgrange and its sports, were represented by one exhibitor, Mr. Shaw, who had nice-looking bunches of good colour, but was only placed second. Mr. D. B. Crane, Archway Road, Highgate, N., was awarded first prize for a very handsome spray arranged with Chrysanthemums and foliage for table decoration. In this he had used the rich yellow flowers of G. Wernig and the little pompon Flora, and as a contrast the crimson and gold Harvest Home was associated. The stand was finished off with Asparagus, Smilax, Croton leaves, Golden Privet, and grasses, producing a rich piece of colouring.

A silver gilt medal was awarded to Mr. J. H. Witt, Nunhead Cemetery, S.E., for a fine group of early Chrysanthemums, arranged in semi-circular form and fringed with the little pompon Petite Marie and Adiantum cuneatum. Inter-spersed here and there were Palms and Ferns, the whole space occupied being 80 feet to 100 feet. Good blooms of Sam Henshaw, Mine. C. Desgrange, G. Wernig, and Grace Attick (a narrow-petaled white) were noticeable. An informal group of plants "outdoor grown" was exhibited by Mr. Shaw, and for this he was awarded a silver medal. The flowers were of good colour, but to properly appreciate them a larger proportion of lighter colours was wanted. Grand plants of Norbert Puvrez, Bronze Bride, Mine. Marie Masse, and M. Gaudin Grunerwald were conspicuous. Mr. W. Wells, Earlston, showed one of his new Chrysanthemum boxes for holding and exhibiting the blooms. This is very simple and consists merely of a little manipulation the box is fixed in the proper slanting position, with an upright stand at back to hold the show card, while in front a series of holders for names of flowers are secured, to be turned in when travelling. The board is covered by a deep lid, which forms a box to cover the blooms. The floral committee commended this new invention.

DAHLIAS.

These were shown in very fine character. Mr. J. Walker, nurseryman, Thame, was first with forty-eight varieties, his leading blooms being Duchess of Albany, Grand Sultan, J. Hickling, Willie Garratt, Dorothy, Ethel Britton, Mabel Stanton, Duke of Fife, Miss Cannell, Mrs. Gladstone, Geo. Rawlings, J. Walker, Perfection, Queen of the Belgians, &c.; second, Messrs. Keynes, Williams and Co., Salisbury. With thirty-six blooms, Mr. Walker was again first with much the same varieties; Mr. M. V. Seal, Sevenoaks, was second. With twenty-four blooms Mr. T. West was first. His blooms, which showed fine quality, were Duke of Fife, John Walker, W. Powell, W. Rawlings, Mrs. Morgan, Duchess of York, Sunbeam, Mrs. Gladstone, Virginale, James Huntley, Mrs. J. H. Downie and Maud Fellowes. Mr. G. Humphries, nurseryman, Chippenham, was third. Mr. Wet was also first with twelve blooms. Messrs. J. Cheal and Sons, second. With twenty-four blooms in the amateurs' division, Mr. J. Stredwick, Silver Hill, St. Leonards was first. He had in fine character Mr. Glasscock, Colonist, Mrs. Gladstone, Mrs. W. Slack, Maud Fellowes, John Hickling, Jas. Huntley, M. Campbell and Mr. Langtry. Mr. T. Anstiss Brill, Bucks, was second. With eighteen blooms Mr. J. Stredwick was again first; his leading flowers, John Hickling, Duchess of Albany, Frank Pearce, Duchess of York, Arthur Rawlings, Earl of Ravensworth, Majestic, Dandy and Mrs. Gladstone. Mr. T. Anstiss was second. The best twelve blooms were staged by Mr. A. Starling, Havering, who had well-developed examples of Mrs. Gladstone, Duke of Fife, Mrs. Langtry, Miss Cannell, Arthur Rawlings and John Hickling. Mr. R. Burgin, St. Neots, was second. Mr. R. Burgin had the best six varieties, consisting of Mr. Glasscock, Matthew Campbell, Prince Bismarck, John Stanish, Prince of Denmark and R. F. Rawlings. Mr. A. Starling was second. In the class for six blooms shown by *bond fide* amateurs, Mr. T. Anstiss was first and Mr. R. Burgin second.

Pompons in bunches of twenty-four distinct were very fine, the first prize going to Messrs. J. Cheal and Sons, Lowfield Nurseries, Crayton, who had very fine Boule d'Or, Cambridge, Captain, Tower, Hemis, Bacchus, Eve, E. F. Jungker, Little Baby, Douglas, Rosebud, and Emily Hooper. Mr. M. V. Seal was second. With twelve bunches Messrs. J. Burrell and Co. were first; they had in excellent form Arthur West, Bacchus, E. F. Jungker, Dandy, Eurydice, Red Indian, Rebecca, &c.; second, Mr. J. T. West, Tower Hill, Brentford; third, Mr. G. Humphries. With six bunches Mr. J. Stredwick was first, having Bacchus, H. Keith Favourite, Eurydice, La Duchesse, and one other. Mr. J. Hudson, Gunnersbury House Gardens, Acton, was second. Single Dahlias were very fine, and rivaled the Cactus in striking effect. Messrs. J. Cheal and Sons had the best twenty-four bunches, staging charming fresh blooms of medium size, chief among them Amor Perry, Demon, Formosa, Phyllis, Duchess of Fife, &c.; second, Mr. T. W. Girdlestone, Sunningdale, Berks; third, Mr. M. V. Seal. With twelve bunches Mr. J. Hudson was first with Miss Henshaw, Demon, James Scores &c.; second, Mr. C. Osman, South Metropolitan Schools, Sutton. Equally fine were the Cactus Dahlias, and probably better stands were never before seen, their effectiveness being greatly enhanced by the true Cactus type which was almost entirely shown. Messrs. Cheal and Sons were placed first with Mayor Hopkins, Mrs. Gorda, Sir Wm. Mrs. Wilson Noble, Mrs. Gorda, Mrs. Sir Wm. Mrs. Wilson Noble, Mrs. Beatrice, Matchless, Earl of Powis, &c., them being the only exhibitors. There were several stands of twelve bunches. Messrs. J. Burrell and Co. were first with Mayor Haskins, Matchless, Mrs. Wilson Noble, Regulus, &c. Mr. M. V. Seal was second. Mr. J. Stredwick was first with six bunches and Mr. J. Hudson second.

Gladioli were a very fine feature, and Messrs. J. Burrell and Sons, nurserymen, Cambridge,

were first with some 150 spikes of very fine character, chief among them Imperator, Rosalie, and Zephyr, all very fine new varieties, and awarded certificates of merit : Hetty Dean, Baroness Burdett Coutta, Pyramide, Rayon d'Or, Sultane, Grande Rouge, John Wills, Decima, Iolanthe, and Formosa.

MISCELLANEOUS.

Under this heading a great variety of produce was staged, each exhibit contributing in no small degree to make the show a very attractive one. A silver-gilt medal was awarded to Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., for a long table on which were grouped in undulating form in the centre different types of the Dahlia, backed by *Lilium speciosum* album, Palms, and Ferns, while at either end in semi-circular lines, were arranged among Maiden-hair Ferns about 100 bunches of zonal *Pelargoniums*, with large pips of grand colour. Chiefly noticeable were Mrs. G. Brockman, Mrs. G. M. Ross (very fine), Miss Ada Hayes, Mr. D. B. Crane, Star of Ryecroft, Princess Alix, Mme. Jules Chretien, Mrs. W. Wright, General Campbell, &c. Messrs. W. Cutbush and Sons, Highgate, N., had a large table filled with hardy herbaceous cut flowers, making a fine effect. Several good Trifloras were amongst the collection, and Lobelia cardinalis was very striking. Montbretia in variety, *Aster*, *Rudbeckias*, and *Eryngiums* were seen in good form. A number of sprays from their fine Dahlia, Watford Party, formed a fine group and were well admired. A new show Dahlia, pure white, named Mrs. Kidstone, is promising, judging by the examples placed upon the table. A silver medal was awarded this collection. A bright lot of herbaceous flowers and *Cactus* Dahlias was put by Mr. E. F. Such, Maidenhead, for which a silver medal was awarded. Mrs. W. Green, Junior, The Nurseries, Harold Wood, Essex, had a very pretty table decoration, very lightly and tastefully arranged. A charming effect was produced by the association of yellow *Chrysanthemums*, *Francoa ramosa*, *Gypsophila*, yellow Marguerites, scarlet *Nasturtiums*, and a bright-coloured decorative Dahlia. This was a pretty blending of colouring and well merited the award of a silver medal. Mr. W. E. Putney, was highly commended for six magnificent blooms of *Chrysanthemum* W. H. Lincoln, these being quite equal to anything shown in November. Mr. J. Williams, Ealing, W., was highly commended for an arrangement of pretty table decorations, which were simply and neatly put up. A silver medal was awarded Mr. F. G. Foster, Brockhampton Nurseries, Havant, Hants, for sixty-two bunches of Sweet Peas, which included all the best sorts. A collection of vegetables and fruit, largely by Mr. A. Penton, The Garden, Woking, Hants, Hall, gave evidence of good culture. This collection received a silver medal. Messrs. Spooner and Sons, Hounslow, well merited the silver-gilt medal which their collection of fruit received. Pears, Apples, Plums, Peaches, Crabs, and Damsons were well shown, a basket of Duchess Favourite Apple being very fine. Messrs. Carter, Page and Co., London Wall, E.C., had a nice collection of *Cactus* and show Dahlias, Sweet Peas, and *Fuchsia* blooms, for which a silver medal was awarded. Mr. J. Hudson sent a charming collection of Water Lilies, which were much admired, the floral committee unanimously granting him a silver medal for them.

which is devoted to horticulture. The site is an ideal one for such a purpose, namely the so-called Treptower Park, designed by Germany's greatest landscape gardener, viz., Gustav Meyer, who at the time of his death in 1877 was director-general of the public parks and gardens of Berlin. The cost of laying out the grounds was £60,000. The park, which is a harmonious mixture of the regular and the irregular style of landscape gardening, abounds in broad and delightfully shady avenues, as well as in open lawns and woods. Its area is over 92 hectares (about 222 acres) and that of the adjoining "Planterwald" 88 hectares (about 217 acres). The ground used for the purposes of the exhibition comprises about 226 English acres, of which about 195 acres are devoted to industrial exhibits, including horticulture, 23 acres to a so-called pleasure park containing all sorts of recreation, and about 8 acres for a reproduction of Cairo. An amphitheatre was built in the exhibition ground, describes a circle of more than 2 miles in circumference, and all parts of this gigantic show can be easily reached from one or the other of the ten stations on this line. The main entrances are on the north side, close to the railway stations "Treptow" and "Austelling". Immediately in front of the crescent formed by the huge pile of buildings comprising the main industrial exhibition are lovely flower beds on an exceedingly well-kept sunk lawn. There are beds of Cannas, Fuchsias, Roses, Begonias, &c., and here and there carpet beds, which, owing to the abundance of brilliant sunshine, have assumed their brightest hues and seem quite in keeping with their architectural surroundings. A broad gravel walk 30 feet wide surrounds a basin some 120 yards in length, from which a huge fountain is sending its refreshing spray. The recesses outside the basin are filled with handsome specimens of a sub-tropical character, such as large *Phoenix dactylifera*, *Phormium tenax*, Bamboos, *Draeanas*, &c., intermixed with suitable flowering plants. Other large Palms and huge standard Bay trees adorn the sides of the main walk, which presently assumes a still broader character and terminates in a treble avenue of Plane trees. A very nearly kept flower garden surrounded by a broad gravel walk, 50 feet or so in width, divides the basin before mentioned from the larger lake, about 800 yards long and 100 yards in width. This was formerly a playground, but is now transformed into a large sheet of water, which at night reflects the fair-like surroundings, and is illuminated by thousands of lamps. It is also used for picturesque gondolas and other craft, which is a decided advantage, especially as the water is connected with another large lake, the so-called "Karpensteich," which is laid out in the irregular style and has "Old Berlin" on its shore. The first-mentioned regular lake has a cascade at one end, and is bordered on each side by flowers and large open walks, grassy slopes, and a very broad avenue consisting of four rows of Plane trees. The visitor can thus promenade on open or on shady walks as he pleases, and the scene at night when all is beautifully illuminated is one not easily to be forgotten. On the northeast side of this lake in a shady recess is the Meyer monument, a handsome bust, erected in honour of the late designer of the park, and close by is a large tract of land devoted to the horticultural part of the exhibition. There are 130 exhibitors in this department, all from the Berlin district only, and the ground allotted to each varies from a few perches to several acres. As the exhibition is open from May to October, the various nurserymen and landscape gardeners who have taken part had to lay out and plant their allotments mostly during the previous season.

By far the most important of the horticultural exhibits is that of M. L. Spaeth, the well-known proprietor of one of the finest and largest nurseries in Europe. The area allotted to this firm is 10,000 square metres (about 2½ acres), and is laid out partly in the picturesque and partly in the regular style. On an exceedingly well-kept lawn are flower beds filled with the bright crimson dwarf Rose Fellenberg, and choice

or rare conifers and various shrubs form very artistic irregular groups. Among the conifers are especially to be noticed handsome specimens of the American kinds, *Abies concolor* and *Picea pungens* argentea with beautiful silvery foliage, suffused with blue. Pretty forms of our European Spruce are *Picea excelsa* pyramidalis, *Picea alba* Woerlitzensis, of peculiar irregular style of growth and with glaucous foliage, *Picea excelsa* nana, and *Picea excelsa* Remonti. Of other interesting Firs I will mention only *Pinus montana*, *Abies sibirica*, and *Picea omorica*. The total number of conifers exhibited is about 700 specimens, which include also several handsome Yews, such as *Taxus baccata* Washingtoni, *Taxus b. cuspidata*, and *T. b. albo-variegata*. Noteworthy, too, were well grown specimens of *Thuja occidentalis* var. *T. o. Honey*, and several choice cypresses. Interwoven with the conifers are a few compact evergreen shrubs, conspicuous among the *Huxus sempervirens suffruticosa* aura, *B. s. arboreascens* folia marginata, *B. microphylla*, *B. s. salicifolia* clata, *Ephedra monostachya* and others.

The central portion of M. Spaeth's exhibit forms a fruit garden in the regular style with broad walks arched over by espalier Pears in full fruit. There are espaliers of Peaches and Nectarines, Cherries, pyramids of Pears and Apples trained with faultless regularity and laden with fruit. Standard Gooseberries and Currants were literally covered with tempting clusters of fruit at the time of my visit. The number of fruit trees or fruit bushes exhibited is 1200. Adjoining the fruit garden is a rosary containing an arbour of Roses, and 8000 standards, half-standards, or dwarfs grouped in various ornamental beds and most of them laden with blossoms. The fruit garden also adjoins a piece of ground laid out in the irregular style, and used for the display of avenue trees, many kinds of flowering trees and shrubs, climbers, &c. Conspicuous among the avenue trees are fine specimens of *Tilia diaphylla*, *Tilia americana* var. *Moltkei*, *Acer dasycarpum pendulum*, *Ulmus amplexicaulis* umbonifolia with globular heads of blossoms, *Tilia cordata* and many more. Highly interesting trees and shrubs are also *Amelanchier ovalis* with silvery leaves ; *Fraxinus excelsior*, beautifully variegated ; *Pyrus malus pendula* Elise Rathke, laden with clusters of fruit ; the yellow-leaved Oak (*Quercus pedunculata* Concordia), *Sorbus Aria* quercoides, *Phellodendron amurense*, ssp. foliage with golden margin ; also a golden variety of *Acer Negundo*, Weeping Copper Beech, *Viburnum tomentosum*, *Prunus serotina* cartilaginea, and golden-purple-leaved *Filberts*, *Esculus macrostachya*, *Symplocarpus occidentalis* spreading close to the ground and bearing clusters of white flowers contrasted against dark foliage. I also noticed *Himaliodendron argenteum* with silvery foliage and pink flowers, *Elaeagnus angustifolia* with Willow-like silvery leaves, *Caragana Chamagu*, *Viburnum tomentosum* and many others. Various climbers were trained into single pillars about 10 feet high ; amongst them were *Actinidia polygama*, with dark green leaves on red stems ; *Artocarpus Sipho*, *Periploca graeca*, *Menispermum canadense* with large Ivy-like leaves, *Clematis corulea* odora, which has sweet-scented blue flowers and white anthers, *Clematis kermesina*, *Clematis coccinea* and many others.

Messrs. Koch and Rohlf exhibit a landscape garden in the irregular style. In laying out their plot they had the advantage of existing large trees of Alders, Birch and Chestnut. Of ornamental shrubs in bloom at the time of my visit I noticed *Spiraea* callosa and purpurea, *Potentilla fruticosa*, *Spiraea* argentea and purpurea, and others. The scarlet-berry Elder showed to great advantage, as did also many handsome specimens of conifers and other trees, including *Abies pungens* argentea, *Pinus* *Emoryi*, *Pyrus salicifolia* and purple Birch. Effective, too, are an archway covered with various kinds of Clematis and a small pond, the shady recesses of which are adorned with Ferns and other shade-loving plants. The walks are irregular in outline, but well kept, as is also the undulating

THE BERLIN INDUSTRIAL EXHIBITION
OF 1896.

OWING to the fact that this exhibition is not of an international character we hear very little about it in this country. It is, however, of a magnitude never exceeded by any previous European exhibition, international or otherwise, and covers considerably more ground than even the last Paris exhibition. Having just spent three very pleasant weeks in Berlin and having paid frequent visits to the exhibition, I will give a short description of it, especially of the portion

piece of excellent lawn on which the principal specimen trees are scattered and grouped with good taste.

Kerner and Broderson exhibit a full-sized tennis-court, surrounded by regular walks and borders of flowers, backed up by choice trees and shrubs. The markings of the court consist of wooden stripes let into the ground, but the lawn itself is exquisitely neat and velvety in appearance in spite of the dry weather. The perennials used in the flower borders are bright kinds of herbaceous Phlox, Spiraea, Funkias, &c., and among the trees and shrubs I noted amongst others good specimens of the Umbrella Pine (*Sciadopitys verticillata*), Weeping Beech, *Cornus Spathei* and many other good things. M. van der Simsen shows a piece of lawn on which are grouped well-arranged beds filled with *Cactus Dahliae*, good *Canna*, *Gladioli*, &c. The Nursery Lorberg has a large piece of ground devoted to fruit trees of all shapes and sizes, both planted out and in tubs or pots, also conifers and ornamental trees and shrubs. Mr. Carl Wreden shows an ideal villa garden in the irregular style. The lawn is exceedingly well kept, and of an undulating character; on it are scattered artistic groups of choice trees and shrubs, flower beds, carpet bedding, a small pond and other attractions. The grouping of the various trees and shrubs is very effective and hard outlines are carefully avoided. M. J. C. Schmidt shows a very handsome pavilion containing a large variety of choice floral designs, which are daily renewed with fresh flowers. The designs on the day of my visit included, among others, the following combinations very artistically arranged: A huge wreath of Clematis Jackmani, displaying on one side a cluster of Lilies; a star, of at least 3 feet diameter, made entirely of blue Delphiniums and relieved with white flowers at the points. Very effective were also a large wreath of Iceland Moss, trimmed on one side with pink Roses, and a good-sized painter's palette made of fawn-coloured plums trimmed with Roses, Dahliae, &c. There are many other floral designs too numerous to mention. The pavilion is surrounded on the outside by fine Palms and other plants in tubs suitable for decoration. Messrs. Daiker and Otto show a bed carpeted with a new red-leaved bedding Begonia, which is here only 3 inches high and bears the name *Teppichkönigin* (Queen of the Carpeters). Close by is a flower bed exhibited by the Horticultural College at Wildpark; it consists of three six standard *Heliotropes*, varying from 2½ feet to 4 feet in height. The ground between the standards is carpeted with small *Heliotropes*; the bed is edged with scarlet *Verbena*. The effect is very striking. M. C. Gebbers shows beds of Rhododendrons, Azaleas, Gladioli, and a whole host of other exhibitors display larger and small arrangements of ornamental plants, some of them of a very high standard, but it would be impossible to specify them all, and I must be content with mentioning those quoted above as representing the cream of what I have been able to see for myself. Besides the open-air exhibits mentioned, there are a great many exhibits under glass or under a roof at the extreme end of the horticultural department. These include collections of dried plants, seeds, plans and drawings of parks and gardens, gardening tools and apparatus, glass-houses of all kinds, and a variety of other things too numerous to mention. On the whole the exhibition is well worth a visit, and affords an excellent opportunity for the study of every branch of horticulture.

F. W. MEYER.

Inside, Exeter.

Riddling lawns of worms.—Worms are often a plague upon lawns. One remedy consists in sweeping the grass with a common birch broom to destroy the castes, and then preparing a solution of common salt and corrosive sublimate, by dissolving in hot water two handfuls of salt and 1 oz. of corrosive sublimate; mix in nine gallons of water. Apply this preparation after rain and sweep off the worms, taking care not to place them near poultry. Another method is to apply a good dressing of salt, then water with lime-

water. Let the liquid stand until it is quite clear, and then apply it to the lawn through a rose'd watering-pot. An old remedy is to place about a peck of quicklime in 30 gallons of water, stir up well, and allow it to stand until quite clear. Then water the lawn carefully with the clear lime-water. This brings the worms to the surface.

NOTES OF THE WEEK.

Veronica spicata alba.—Though one of the oldest varieties, it is not frequently seen, and certainly the daintiness of its pure white blossoms are very pretty in a group.

Sstroptosella Jamesoni.—I noted this at Cambridge, the bright orange blossoms being very attractive. This may be propagated from cuttings early in the year, and, grown on in a cool house, nice plants may be had the same season.—A. H.

Helenium pumilum continues to give a rich profusion of its golden blossoms, and for its dwarf, compact stature is one of the most useful summer and autumn flowers. Scarcely 2 feet high, it has been yielding flowers for weeks past in the greatest profusion.

Rudbeckia Newmanni is just now in the finest possible condition, having greatly benefited by the recent rain. Dwarf and compact in its growth as well as free-flowering are points to recommend its abundant use for beds or masses, where its black and gold flowers are always effective.

Tritoma Uvaria grandiflora.—This in a cut state was one of the most striking objects in Mr. Ware's group at the last meeting of the R.H.S., and arranged among the yellow composites its massive spikes were seen to good advantage. At Kew some imposing clumps have also been flowering abundantly.

Cassinia corymbosa.—A mass of this useful plant is now flowering freely on the grass in the gardens of the R.H.S., Chiswick. The plants are not large, rather the reverse, being not more than 20 inches high. A very pleasing result is secured by the number of golden blossoms above the ample and pleasing foliage.

Colchicum.—These are now fast pushing up their pretty blossoms, and tell of the approach of autumn. The other day we noted them at Chiswick and at Kew in patches in the rock garden, and again in a pretty and natural manner at the latter place, springing freely into flower in the grass where at this season they are always beautiful.

Saintpaulia ionantha.—This is now flowering freely in No. 7 range at Kew, and apparently quite happy in the treatment it is receiving. The panes in which the plants are growing are about 6 inches across and scarcely more than 3 inches deep. There is quite a profusion of the intense blue flowers that make it a pretty object when in bloom.

Statice latifolia is perhaps the showiest, as it is also the most vigorous of the hardy kinds; now in flower, and at this season indispensable in the herbaceous border or in groups. In deep soil it quickly establishes itself, and the dense, bush-like head formed by its flowering sprays renders it one of the most attractive of border plants at this time.

Sollya heterophylla.—I lately saw this pretty Australian Bluebell in flower at the Cambridge Botanic Gardens, and as grown there it appeared to be superior to *S. parviflora* (*Drummondii*), the flowers being of a deeper blue and in greater profusion. Although an old introduction, this pretty climber does not seem to be much grown.—A. H.

Celosia cristata.—This makes a very pretty plant for the cool greenhouse. I am reminded of this old favourite by seeing some nice plants in the greenhouse at the Cambridge Botanic Gardens. It may be raised from seed during the summer for

flowering the following year. If grown on in a cool pit and kept from frost during the winter, the plants will come in very useful.—A. H.

Lillium auratum rubro-vittatum.—Near the main entrance at Kew in a bed chiefly devoted to Azaleas and such like plants are several clumps of this crimson-banded Lily, which are most effective, particularly in the earlier stages of development. The flowers, too, are of large size, and with the heads of bloom appearing above the shrubs the richly banded blossoms attract the attention of the visitors.

Helianthus multiflorus giganteus.—This well-marked variety is among the boldest and most imposing of the perennial Sunflowers; indeed, the largest of them all. It is distinct, too, in the clear light yellow of its handsome blooms, that are each often 6 inches across, while the disc is a comparatively small one. At home in any good soil, it makes a handsome and striking object in any position where room can be afforded.

Pentstemon barbatus Torreyi.—Though somewhat later in flowering than the type, it is still as useful in beds on the grass, where the vivid glow of its salmon-scarlet flowers is very striking. Such things are most helpful by their elegant habit of growth that permit of free grouping without in the least crowding or destroying their natural charms. The plant is easily increased by division or by cuttings produced from the base of the plant.

Cimicifuga cordifolia is a very neat and highly desirable perennial of erect habit, with panicled racemes of white flowers. The latter are very closely and densely arranged, and on first opening are of a creamy shade, which eventually whitens with age. In its erect spicate racemes it is very distinct, and in a group forms a very pleasing subject at a time when the major portion of flowering things are composites. It is a native of North America and attains about 3 feet high.

Lilium philippinense.—At the Drill Hall on Tuesday Mr. T. S. Ware had some forty or fifty plants of this unique Lily, evidently very strong and in excellent condition. The large pure white trumpet flowers are noticeable by their great length as well as the permanent imbrication of the divisions of the perianth, while the slightly ascending aspect of the blossoms gives it an advantage over some of the more drooping kinds. Its graceful, elegant growth and narrow linear leaves are also characteristic.

Lilium Batemanii.—Some beautiful sprays of this chaste Lily were included in Messrs. Wallace's group on Tuesday at Westminster, and in their clear rich tint of apricot were very pleasing. It is a beautiful Lily, of comparatively easy culture in a well-drained soil of loam and peat made very sandy, and rarely more than 3 feet high even from quite strong bulbs. This Lily should never be planted in soil of a clayey nature, but where such exists a special bed of good soil should be given with ample drainage.

Lilium speciosum macranthum.—This distinct variety was freely shown by the Messrs. Wallace at the R.H.S. meeting on Tuesday, and is among the showiest of these speciosum varieties. The flowers, in themselves large, possess also the peculiarity of remaining more or less flat, as in speciosum album, and not revolute, as in Kratzeri, so that in large or small groups a few expanded flowers produce a goodly display. The flowers of the above variety are heavily suffused with reddish crimson, and are decidedly effective either in pots or in a cut state in large vases and like.

Tritoma Nelsoni.—Whether this plant will prove as hardy as the average member of this race is perhaps open to doubt, but, even if some-what tender, it merits the requisite protection on account of its exquisite colour. There are now two small plants of it now in flower at Chiswick; the scapes barely 2 feet high, while in the clear apricot-coloured flowers there are considerable beauty and refinement. Even as a pot plant in the cool conservatory this would be delightful.

In general aspect it is somewhat in the way of T. Macowanii, the leaves rather narrower perhaps than in this kind.

Lilium Henryi.—As showing the extended season of flowering of this handsome species, the Messrs. Wallace had flowers at Westminster on Tuesday. These were in flower from the topmost buds, and therefore only about half the size of many that have preceded them. A single plant, however, which has produced the ample yellow of its flowers, while on all sides its vigorous constitution is a subject of comment, a fact that cannot be too widely known, as from all standpoints it is undoubtedly an acquisition that will figure largely in the future in choice collections of this remarkably varied group.

Lapageria rosea.—I am sending you a spray of Lapageria rosea, which I think is an extra good variety. One meets with a good many inferior varieties of this popular and useful flower, the result probably of raising plants from seed instead of layering. The plant from which the enclosed flowers were cut is growing in a small conservatory facing north, the roots being confined in an Oak box and the growth trained up the wall and over a trellis beneath the roof-glass. Although ample room is generally considered necessary for Lapageria roots, the plant under notice is confined to a space not exceeding that of a large pot, and it has grown and flowered well for the last ten years.—J. CRAWFORD.

* * * Superb.—ED.

Bocconia microcarpa is a new and beautiful species from Northern China that surpasses the old form (*B. cordata*) for its beauty and decorative character generally. The new-comer attains fully 9 feet high, and in its leafage and growth is not widely different from the old kind, its chief distinction being in the inflorescence. This at a little distance is of the nature of a plume-like panicle and of a warm bronzy tint, not unlike the Venetian Sumach in the early summer. In this respect the terminal panicles are very pleasing and distinct and in the shrubby would create a very pretty effect. As implied in the specific name, it is quite distinct when in fruit. At Kew the two species are growing near each other in the herbaceous ground, thus affording good opportunity for comparison.

Calceolaria alba.—Through a descriptive specific title, it is certainly a modest sounding one for the beautiful species to which it refers, and of which a large plant has been flowering abundantly in the hardy plant department at Kew. Trained fan-shape to a wall with a sunny aspect is a large plant covering a space of nearly 3 feet, and which for weeks past has been literally loaded with countless sprays of its snowy blossoms. These very pure flowers are produced on rather long peduncles that should render it a valuable plant for cutting. The neat suffructose habit of the plant is also very pleasing, and one wonders why such beautiful subjects are not more freely grown in the open in summer-time. By selecting warm sunny positions as that at Kew this pretty Chilean sub-shrub would certainly find many admirers during its long season of flowering.—E. J.

Polygonum baldschuanicum.—This is the distinctive specific name of what is undoubtedly one of the most charming members of this remarkably varied group of plants. The above species is a native of Eastern Bucaria, and possesses a climbing habit of growth. The rather woody stem, which is covered with numerous hairs, compared with that of the Chinese Creeper, and it is probable that the above will prove a deciduous climbing plant of this character. But in the peculiar beauty of its sprays of delicately coloured blossoms it is obviously unique. A fine example now flowering at Kew in the herbaceous ground is trained to tall stakes about 7 feet high. It is quite clear, however, that the plant will easily attain 20 feet high, and, freely furnished with its white, pink tinged sprays of blossom, it is charming in the extreme. Essentially of climbing habit, this plant will make one of the most delightful for furnishing tall trees, and so beautiful are its

sprays of blossom that it is scarcely less desirable for cutting.

Flowers from Winchmore Hill.—I sent you a few flowers yesterday for your inspection. *Polygonatum multiflorum* is a most elegant grass, foliage remarkable fine and gracefully arching. It is very free-flowering and one of the most distinct grasses I grow. *Echinacea sub-tomentosa* is remarkably bright and exceptionally free, and of quite a distinct shade of yellow from any of the *Helianthus* that are flowering now. *Helenium striatum* is exceptionally fine this season. Some of the flowers are almost crimson, no doubt owing to the very dry season. It is certainly one of the prettiest plants in flower just now. I have also sent two varieties of *Echinacea intermedia*. This is quite distinct from *E. purpurea* and *angustifolia*; the latter is a splendid plant where it does well, but it is remarkably scarce. The *Dianthus* I send is a sport from D. *Maria Pere*. It is constant and quite as free-flowering as the old variety. *Linaria repens* alba is lovely, clump a yard through bearing thousands of flowers. It has been in flower here since May.—AMOS PERRY, JUNE.

Lilium satrum macranthum.—Stately and imposing in its every aspect, with giant bulbs and scales that are known at a glance, it is equally distinct above ground in its bold stems and leafage, and last, though certainly not least, in its massively expanded flowers. The substance of the broad imbricated segments is also remarkable, and in this respect is only approached by that of the nearly pure white form known as *virginale*, an exquisite Lily in every respect. *L. macranthum*, however, is quite unique in point of vigour from all. A splendid group of it may now be seen flowering in the open at Kew, where in a large bed devoted to *Azaleas* it is expanding its giant flowers day by day. Happily, it is no more difficult of cultivation than ordinary aura; indeed, sound bulbs of it will produce a giant stem 5 feet or 6 feet high, and from six to ten noble flowers. This entirely depends, however, on the strength of the bulbs. Those now flowering at Kew are between 4 feet and 5 feet high and constitute a very imposing and handsome group.

Amaryllis Belladonna.—There is now a beautiful display of this fine hardy bulbous plant beneath the wall of No. 1 house at Kew, quite near the main entrance on the green. Here in all stages of development are many beautiful flowers in several forms, and, judging by the numerous buds that are yet to expand, there will be a nice show for some days to come. Some of the scape are of large size and contain as many as eighteen buds; indeed, we noted some having nine fully expanded blossoms of large size and an equal number of buds still to open. This means a lengthy display of flowers, and when the set is added that most of the buds will be producing two and three scapes, as will be seen at a glance, that the number of spikes is considerable. It is also an easy plant to cultivate, the chief items being a warm sunny spot and bulbs that are well established. When the bulbs, attain to large size they flower regularly each year. A depth of good soil below the bulbs, so that the roots may descend deeply, will be productive of much good, and the buds, if planted 6 inches below the surface, will be quite safe. Small bulbs often take a couple or three years to become fully established, and if such are planted a little patience will be needed.

Notes from Baden-Baden.—The first autumnal flowers have made their appearance—a new deep blue *Crocus* from Armenia and a big Persian *Colchicum*. *Kniphofia citrina*, quite hardy here, is flowering freely now; the spikes small, but very pretty, of a fresh citron colour. Among many thousands of another new species a handsome variegated one has turned up. *Richardia Nelsoni* has shown its spathes in succession since June; they are creamy white with a tinge of sulphur, and have a large violet blotch at the bottom. It seems a very robust plant and a

good acquisition. Among Gladioli, beautiful new colours hitherto not seen have made the borders gay—white, as well as very deep violet, crimson and blackish shades. It will not be long before we shall have ultramarine blues as well. *Lobelia* enjoy the cool, moist weather, and especially among the fulgens group splendid varieties are in full bloom. *Coriaria nepalensis* has been in striking beauty since July, and is likely to be so until frost sets in. Every visitor admires the crystalline, deep yellow fruit. It is a native of the Himalayas, a perennial root having shrubby twigs, the ends of which are adorned by the numerous fruits. It is quite hardy here.—MAX LEICHTLIN, Baden-Baden.

Campanula pyramidalis (the Chimney Campanula).—When well grown this species, together with its pure white form and the more recent varieties called compacta, is amongst the finest of all the Campanulas. In the greenhouse or in the open beds or borders its towering spikes of blue and white are most effective, and good plants are so easily secured, that gaps in the shrubbery may always be filled with such bold and telling subjects. But too frequently we see this fine plant only half developed, and the somewhat stunted growth, as a rule, indicates where the error was made. Like many other plants that are best treated as biennials, this should be grown freely from the start, in soil both deep and rich. When kept too long in pots, or when the start the plants will become stunted, and these rarely recover sufficiently to make fine plants. A good way is to sow seeds in a shady place in the open, thinning the seedlings out early and planting in groups of a dozen or more when quite young in very rich soil. These may need thinning again perhaps later, as they may be too crowded. Again, where seeds are plentiful, a few may be scattered about the shrubberies broadcast, for they are always effective in the garden in this way. Particularly fine results may be secured from the white kind by having bold groups in proximity to dark-leaved shrubs, such as Hollies and the like. At Kew just now there are many fine plants in pots in the greenhouse.

OBITUARY.

M. ELIE ABEL CARRIÈRE.

We regret to have to announce the death of this well-known writer on horticulture. He was for many years in a high position in the Garden of Plants, and a man who did much for gardening from his great knowledge of the art and also from the attention he paid to certain families of trees and shrubs, like the conifers, Apples and many others. From a very sympathetic notice by M. André, his co-editor of the *Revue Horticole*, we have the following particulars of his principal garden work; he also wrote much on other matters.

During 1851 he wrote the history of new H.P. Roses, which was a forerunner to his studies on hard-wooded plants, to which he specially devoted himself in 1852, as head of the Museum nursery grounds. During three years he confined himself to various works on propagation, began his studies on conifers, edited a good "Revision of the Genus *Diervilla*" (1854), and in 1855 published the first edition of his "General Treatise on Conifers." This work at once brought him into notoriety. It showed him to be a botanist as well as a gardener. Described and written with perfect clearness, correct in being systematic and descriptive, full of good advice on the propagation and habits of conifers of all countries, and an indispensable guide to foresters, this beautiful treatise was received as supplying a horticultural want. It was revised in 1867, and a second edition treated of the works of

Gordon, Hochstetter and Nelson, which were severely criticised by an author who showed himself an authority. The "Treatise on Conifers" remained the authentic work on this family of plants until the publication of the "Monograph," edited by Parlatoire, for the "Prodromus," and it is only in Veitch's "Manual of Coniferae," and even more so in the far more recent work by Beissner ("Handbuch des Nadelholzkunde") that descriptions and observations subsequent to those in Carrière's work can be found. Mons. Decaisne was then engaged on his work entitled "Le Jardin Fruiter du Muséum." His relations with Carrière were most friendly, and he engaged him to study and write on Peaches. Everyone knows with what exactitude these descriptions were made, added to the admirable water-colour illustrations by the great painter Riocreux. The notes on Yuccas, Peaches, and Walnuts were published in the *Revue Horticole* in 1860. The following year he commenced publishing his "General Considerations on the Species," which later on he published in pamphlet form. In 1862 he brought out "Nomenclature of Peaches and Nectarines," and in 1863 and 1864 he described the new Peaches of China. In 1865 he published his genealogical tree of the Peach family. Continuing his studies, he published in the *Revue Horticole* in 1858 his researches on the germination of seeds; in 1859, a continuation of his study on conifers, on grafting, and commenced a revision of the genus *Yucca*, which he followed up during many years. It was at this time I had the good fortune to make his acquaintance, and begin the friendly relationship which death alone ended after thirty years. At this time a serious incident occurred in the life of Carrière. I have already stated how cordial the relationship was between his chief, M. Decaisne, professor at the Museum, and himself, based on mutual recognition of each other's worth. In 1869 Carrière had studied in this establishment the varieties of *Diospyros*, which were cultivated for the first time in Europe. M. Decaisne believed he recognised the *Diospyros Schi Tsé*, of Bunge, in the plant which the head of the nursery grounds described under the name of *Diospyros costata*. Vexed at seeing his chief using the columns of a foreign journal (*the Gardeners' Chronicle*) to criticise his manner of thinking, Carrière replied in the *Revue Horticole*, and protested against the conduct of M. Decaisne towards his subordinates. Life became unbearable at the Museum between these two clever men, and everyone regretted to see them disunited for such a trumpery cause as a question of nomenclature. From this time M. Carrière devoted himself to the *Revue Horticole* and his other publications, always on the lookout and searching for anything new or of interest, visiting horticultural establishments, exhibitions, taking part on juries for examination sparing neither trouble nor time so long as he could be of use—until his strength became exhausted. Early in 1856 he brought out his "Gardener's Guide for Propagation"—a perfect guide for every practical gardener. Of this a second edition was published ten years later. In 1862, under the title of "The Horticultural Encyclopedia," Carrière continued his work on the principles of horticulture, and thus rendered new service to the cause he loved. Enthusiastic on the culture of Grapes for table and making wine, he wrote in 1865 a good book, entitled "The Vine." He then worked on the Vines of the Soudan, those of China and Japan, and the Apples with ornamental fruit, of which he published in 1883 a monograph under the title of "Small-fruited Apples."

PUBLIC GARDENS.

New recreation ground for Barking.—The Barking District Council have arranged for the laying out of 11 acres of land as a recreation ground for the district. It is proposed to form a lake and to provide athletic grounds, ornamental gardens and walks, at an estimated cost between £60,000 and £70,000.

Proposed new open space for Hampstead.—An appeal has been issued for public subscriptions to raise the sum of £3000 needed for the purchase of Fortune Green, West Hampstead, as open space. The London County Council and the local vestry have each voted the sum of £3000 for this purpose, and the total amount promised is upwards of £6500.

A new recreation ground for London.—The authorities of St. Bartholomew's Hospital, as freeholders of the Oval, Windsor Terrace, City Road, from which the public have hitherto been excluded, write to the St. Luke's Vestry, intimating that if that body will undertake to lay out the space as a recreation ground, the governors of the hospital will grant a lease for a long term at a nominal rent. The Oval is situated in the midst of a densely crowded population, and there is reason to believe that the vestry will readily comply with the conditions imposed.

A public park for Dorking.—The urban council were memorialised lately as to the provision of a public park or gardens for the use of visitors to and residents of Dorking and the district. The memorial, which suggested that the expense might be met wholly or in part by public subscription, came at an opportune time. Several councillors have had the subject under consideration, and the chairman, Mr. H. J. Chaldecott, had given notice to move that "in the opinion of the council it is desirable to provide a small public park to be used as pleasure grounds and a place of public resort." Mr. Chaldecott believed there was a very strong feeling in the town in favour of such a park, and felt that they could rely upon public subscription for a part of the expense. He remarked that the opening of a place next year would be an appropriate way of signalling to Dorking the completion of the 60th year of the Queen's reign. Mr. Chaldecott, in the course of the discussion, referred to a meadow in the Westcott Road, which he said commanded splendid views and was accessible. The owner of this is to be approached.

The dangers of barbed wire fencing.—Mr. Baxter held an inquiry lately at the London Hospital respecting the death of Robert Birt, aged 76 years, a labourer in the employ of the London County Council, and lately residing at Brickfield House, Lower Fishde, Croydon. The coroner showed that a fortnight ago he was employing putting up a fence along the bank of the East Ham main sewer. Some market gardeners adjoin, and round these the owners had placed rows of barbed fencing. As the man was digging a hole for a post he pricked his hand and scratched his arm. He complained the next day of pains up his arm. A doctor was called in, and ordered him to the hospital, where he died on Sunday. Dr. Harold Basden, house surgeon, deposed that death was due to septicemia set up by the scratch. The coroner said there had been a great agitation against barbed fencing, and a special Act of Parliament was passed that a public body could give notice to the owner of a barbed fence to remove the same within six months. The jury returned a verdict of accidental death, and desired the coroner to write to the Essex County Council requesting them, in the public interest, to give notice to the owner to remove the fencing, which appeared to them to be unnecessary.

The weather in West Herds.—Another cool and wet week. The shade temperature at no time rose above 66°, and on one night the exposed thermometer fell to within 5° of the freezing point. The wettest day was the 1st inst., when

nearly half an inch of rain fell. The past month proved cold—in fact, there were only four days when the mean temperature rose above the August average. It was also rather wet, rain falling on sixteen days, to the aggregate depth of 2½ inches, nearly the whole of which was deposited during the latter part of the month. With the exception of March and August, all the months have been dry this year, and the total rainfall at the beginning of September fell short of the average for the same eight months in the previous forty years by as much as 6½ inches. The record of sunshine was likewise a poor one. As compared with the same month last year, the deficiency amounted to more than two hours of bright sunshine a day. The wind throughout the month proved light, while the highest velocity recorded at 30 feet above the ground was only 18 miles an hour. No rain water at all came through either percolation gauge before August 19, but since then about seven gallons have come through the heavy soil percolation gauge and about six gallons of water through the light soil gauge. Both gauges are a yard square.—E. M. E.

Plants in tubs in the open air.—In large gardens in Austria we have still the old ways of growing Yucca, Aucuba, Pittosporum, Euonymus, Aralia, Dracaena, Phormium, Agapanthus, Myrtus, Eugenia, Rhododendron, and Camellia in pots and tubs for the embellishment of balconies, loggias, &c. Many private gardens and great restaurants have now Sweet Bay, which are mostly imported from Belgium. Oranges and Pomegranates are seldom found except in plants like Schönbrunn. In towns the open space before the public houses or coffee shops is generally decorated with a row of Nerium Oleander and Biotia orientalis in tubs. Boxes with Ivy trained to a framework at a height from 1 to 2 metres are used to a large extent. The whole summer has been very rainy and stormy; the grass, shrubs, and trees are as green as in spring, but field crops are not so good.—LOUIS KROATSCHE, *Imperial Gardens, Prater, Vienna.*

Carnation. Uriah Pike.—As one of the original introducers of this crimson perpetual Carnation, and a holder of at least five medals, together with numerous certificates, I cannot but challenge the remarks of Mr. T. Smith, of Newry, which occur in THE GARDEN of August 22, 1896. I will undertake to exhibit at the forthcoming meeting of the R.H.S. on September 8 two dozen plants of the above Carnation, i.e., one dozen of two to three years old, and another dozen young plants, cuttings of the present year. And I will further undertake to forward a cheque of £10 to the Gardeners' Orphan Fund if the floral committee declare these to be identical with the old Crimson variety as stated by Mr. Smith, provided that Mr. Smith will exhibit an equal number of plants of the Old Crimson for comparison, and undertake to forward £5, i.e., half the above amount, to the institution named in the event of the judges deciding against him. Failing to do this, I ask Mr. Smith to unconditionally withdraw the imputation he has made.—GEORGE MAY, *The Nurseries, Upper Teddington, Middlesex.*

Nymphaea Marliacea chromatella.—I have a good plant of *Nymphaea Marliacea chromatella*. It has thrown up five fine buds, but they go off without opening. It is its second year, but it has not shown flower before. Has anyone else had this trouble with it?—MEDWAY.

Names of plants.—*Anastur*, 1, *Spiraea Lindleyana*; 2, *Pteris longifolia*; 3, *Liriodendron tulipifera*; 4, send better specimen; 5, *Taxodium distichum*; 6, *Prunus Pissardii*; 7, send better specimen; 8, *Crataegus Pyracantha*.—R. C. Coote.—*Purpurea* (*Spiraea cornutum*).—W. Gutierrez.—*Gomphrena globosa*.

Names of fruit.— *Newcastle-Calville* Rouge d'Hiver.—W. D. Horsley.—1, *Peach Early York*; 2, *Crimson Galande*; 3, *Alexandra Noblesse*.—*Constant Reuter*. *Pear Souvenir du Congrès*.—J. E. Davies.—1 and 2, *Pear Williams' Bon Chien*; 3, *Peach Farrington*; 4, *Peach Grosse Mignonne*.

No. 1295. SATURDAY, September 12, 1896. Vol. L.

"This is an Art
Which does mend Nature; change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

CHRYSANTHEMUMS.

CHRYSANTHEMUM NOTES.

A FREQUENT cause of failure in Chrysanthemum culture is over-feeding. The desire to obtain plants of gigantic proportions in the matter of leaves and stems is so widespread that in very many cases feeding is overdone. I have during the past dozen years noted a goodly number of instances where the coveted big blooms did not follow the fat growth so taking to the eye of the inexperienced. I remember one enthusiastic grower, whose object was to win prizes at exhibitions, taking the trouble to bring samples of foliage a considerable distance that I might see them, so proud was he of the extra dimensions the leaves had attained to. At the proper time I was anxious to see the blooms that were to develop in equal proportion. But he was not so sanguine on the day of competition. This, however, is not an isolated case. The keener competition of to-day, when so many more take part in exhibiting than even a few years back, makes mistakes more noticeable if not more easy. Frequently all will go well with the plants up to the time of their final potting, then a too free use of highly concentrated manures in the soil causes the check. The roots refuse to run freely with the good things prepared for them, and the successful beginning is thereby spoiled. But more often the breakdown occurs in regard to over-fed plants at the time the blossoms are opening; pitiful, soft growth being unable to build up flowers of good substance. I fancy there is very little produce of the garden, be it flower, fruit, or vegetable, brought to perfection, when the conditions are such that a sappy form of growth is secured. Who expects Grapes to perfect well when the leaves remind one of Rhubarb, Tomatoes to finish a good crop with stems as thick as an ordinary broom-handle, or Roses to bloom well on stems as large as one's finger? And so with the Chrysanthemum. Give the plants a long season of growth, a compost that will allow of free rooting, ample pot-room, and steady feeding when the soil has become exhausted, then a good flowering season is sure to follow. Of course attention to moisture at the roots must never be neglected, and I ought to add plenty of space in the open quarters.

In a season like this there has not been much difficulty up to the present in obtaining growth of ripened character, and it is plants which have not been unduly fed with manures which will make excellent progress from the change to showery weather. The buds will swell freely and grow well away from the foliage, a sure sign of nicely developing blooms. Anything that is done in the way of feeding should be to aid the formation of surface roots. These tiny feeders keep the plants in perfect health if kept going up to the last. Some growers of distinction have great faith in top-dressing, and it is no doubt beneficial. Only one must afterwards be particularly careful in the matter of watering, or the soil at the bottom of the pot may become dry, whilst that newly placed on the surface is quite moist. I would not like to say that any one particular manure is necessary for the purpose. There are plenty of good fertilising compounds in the market, but care should be exercised in their use. Not more than 2 lbs.

to a bushel of earth would be a safe quantity. I would prefer the loam of a fibrous nature. This and bone-meal make a perfect top-dressing. I do not like the mode sometimes seen, of putting on the surface a thickness of animal manures, such as that of horses or cow; nor is such strong burning material as fowl manure safe unless mixed in a small proportion with the loam. Soot again, if used too freely, would burn what roots there are on the surface of the soil instead of assisting their increase. Fertilisers have great effect in showery weather; it is then surface roots run most freely, and again after the plants are placed under glass. Meanwhile, when the weather is brighter and the calls for root moisture are great we may use manures in a liquid form. These are various and well known. The rule which cannot be too often mentioned regarding their use is that they be applied very weak and often rather than in strong doses occasionally. A day or two back I was asked to advise an amateur who had up to then a capital lot of Chrysanthemum plants. The grower was anticipating some fine heads of blossom later, but could not account for the leaves turning yellow from bottom to top of the plants all at once. The tender roots had evidently been killed, and I asked if they had had a strong dose of liquid manure. "No," it was said. But a cessa-pool close by made me suspect the cause, and it turned out that the handy man had watered the plants, pumping its contents into a can and giving the liquid neat. Just a few very strong-growing kinds like Etoile de Lyon and Sunflower were in no way affected. The tender-rooting whites, as Mme. Carnot, however, and such delicate beauties as Hairy Wonder, looked anything but happy. It is important, then, in growing Chrysanthemums, that we should note those of more weakly growth and feed them less.

Although these notes refer principally to the culture of the Chrysanthemum for large blooms, good cultivation is desirable all the same for whatever purpose the plants are intended. They all need what is known as feeding to maintain a healthy vigour just now when the abundant leafage and swelling flower-buds are causing such a strain on the sap-giving powers of the roots. I have noticed the appearance of mildew more or less in all collections I have seen, and curiously, on the leaves of yellow varieties mostly. It is desirable to apply sulphur at the first signs of this fungus, otherwise it spreads with great rapidity and makes the plants unsightly. Insect pests are generally most troublesome where the plants are growing near large trees, therefore one must be always on the alert, or blind buds and deformed blossoms will be only too prevalent. The only insect I would allow to remain on the plants is the harmless ladybird.

H. S.

Chrysanthemum Mrs. H. Weeks.—This variety appears to be unusually late in producing its flower buds, and I fear this will prevent its being seen during the coming autumn in that magnificent form noted last year. A sort so large and grand must necessarily require a considerable time to develop. I may of course be wrong, but should say the plant will be found to need toping in the early months of the year for the purpose of obtaining flower buds some time in August.—S.

Dwarfness in Chrysanthemums.—This desirable character is gladly welcomed among many of the newer varieties, and it would be well if when awards are made to novelties, habit of growth were taken into account. Too often, however, one is carried away by the beauty of a new flower, and after purchasing a plant of the same is disappointed to see its slender shoots run up to a height of 8 feet or more before the time comes for blossoming. Not only is the expense of sticks and

other supports considerable, but such tall specimens are anything but beautiful. Cutting down the plants may be adopted. This will lessen the height finally reached, but this is always at the expense of the bloom. That is to say, comparatively finer blooms will be grown from the natural habit of each variety with few exceptions. I would like every Chrysanthemum plant to grow not over a yard high. That fine sort Mme. Carnot has a particularly loose and rather tall growth. Edith Tabor is also ungainly; the variety Reine d'Angleterre possesses a valuable dwarfness; short, too, is the growth of that grand novelty M. Chénon de Leche; P'tit Bon and Mutual Friend are both of excellent growth; Pallanza again has a habit not at all taking; Calvat's Australian Gold, which will very likely be the variety of the year, is a capital deer and does not run up tall; Beauty of Teignmouth has perfect growth. One requires a large pot to receive the top of plants of Eva Knowles. But as I have noted we are gradually going in the right direction, for there are no sorts cultivated now that run to the extreme height of that famous old variety Mme. C. Audiguier, which has been known to grow 12 feet high above the pot before blooms appeared.—H.

WHITE CHRYSANTHEMUMS.

THERE is a goodly number of excellent varieties of the most favoured of all Chrysanthemums. As an early-flowering white Mme. Desgrange is the best. Out of doors the flowers have a yellow tint, which detracts from its merits, but if placed under glass before the blooms open they come snowy white. This is a first-rate sort to grow in the open garden, lifting the plants just before the buds show colour. It has a way of making a bushy lot of roots, so that one may take up a nice ball of earth as well. The leaves and blooms, therefore, do not suffer to any extent from removal. I pot some, which are kept shaded and sprinkled for a few days, and they readily recover the check of shifting. The bulk are bedded in the soil where Cucumbers have been growing. Here the light, rich soil aids a quick root action, and the plants quickly become furnished with a quantity of blooms of a useful size. I thought at one time the above-named would be superseded as an early white by the newer Lady Fitzwygram. The latter is equally dwarf and free, and probably of a purer white, but the shape does not commend itself generally. Its flowers, especially when disbudded, fold in at the centre of the bloom, this incurving, to my mind, making it less useful for general purposes than a variety which reflexes its petals in a graceful manner. Good white sorts to follow the early ones are Elaine, Lady Selborne, Mlle. Lacroix and Souvenir de Petite Amie. The three first-named are all well known and first-rate for the supply of a quantity of cut bloom. Elaine has flowers of striking purity, those of Lady Selborne of a slightly less snowy character. Mlle. Lacroix bears flowers the perfection of graceful form, although a little fault may be found with the purity of the white. The last named is comparatively new. It is a very fine kind for October flowering. The habit of growth is especially dwarf and branching. It has nice foliage and is very free-flowering. No fault can be found with the blooms, and when better known I should say it will be the most esteemed among semi-early white Chrysanthemums. The old variety Avalanche is a first-class white which should not be altogether discarded. Where pure white incurved sorts are valued, Mrs. G. Rundle should take the leading place; this, however, grows rather tall. Mme. Carnot is a magnificent white kind for any purpose. It blooms naturally in November. For the supply of cut

flowers the plants are generally stopped, in which case a somewhat long growth is remedied. This sort is especially handsome in form and the white is good. Every bloom comes double, whilst the long florets give it graceful form. Mlle. A. de Galbert should be tried as a free-flowering kind. It has mostly been seen as a large exhibition bloom, but it has qualities to make it popular for general purposes. This flowers in November. Mlle. Thérèse Rey is a pure white; it has a weakly flower-stem, which would not be liked by some. A white bloom of extra purity is Mutual Friend. I have not tried it otherwise than for large blooms, and I am afraid that without being freely disbudded the flowers will not come double. Its dwarf habit is commendable. Following the above-named in time of flowering is Nivium, a kind possessing every good quality for general culture. Then for very late supplies there is no sort to equal L. Canning. This does very well planted out, because it lifts well and makes a capital bushy specimen. The white of its flowers is very pure. Princess Victoria is a good late white too. It is a stronger grower than L. Canning, flowers as late, and is easy to cultivate. The two last-named may be had in perfection at Christmas, and they can be kept in good condition till even a month later.

H. S.

bushy habit. Bronze Bride and Blushing Bride are two capital sorts, which bear rather small blooms in great profusion. Flora is a bright yellow with small flowers. A capital variety of the Japanese type is Mme. Foucher de Cariel, colour deep orange. Coral Queen has blooms of a nice tint, but the habit is rather tall.

H.

ORCHARD AND FRUIT GARDEN.

FIGS IN AUTUMN.

FIGS are often fruited late even when grown for early supplies, and the importance of getting the wood of forced trees well matured cannot be over-estimated. The Fig produces fruit so freely, that one is apt to take advantage and get fruit for a long season. I am aware all kinds do not give a second crop so freely as others. For instance, the Ichisias and Brown Turkey will give three crops if allowed; hence the importance of reducing the late growths to ripen up the wood for next season. At this date (the end of August) Fig trees in the open are at their best, and how well they do in certain localities may be seen from the fruits staged at this season at the Brighton and other shows in Sussex. I am a great believer in firm wood, early ripening, and early potting if necessary. The pot culture of Figs may with advantage be largely extended when early fruits are wanted, as after a season or two they force so readily that there is no difficulty in getting good fruit as early as required. With forced trees if regular potting is carried out, the crop is more irregular, as the trees grow so much to wood if not cramped at the root. By this latter remark I do not mean that pot Figs must be starved to produce fruit. With plenty of roots rich food may be given, as strong trees will take food freely either in a liquid state or in the shape of a good fertiliser. The difficulty with pot trees is that they get too large for forcing. It is advisable to have a relay of young trees to form a succession, and by this method there is less labour, and the trees can be forced in small pits, which is a great gain. Trees that have been forced for years may be in very large pots or in a confined space, and after a certain time they become so stunted that measures have to be adopted to get new wood, and in nine cases out of ten young trees would give a better return. I am aware the first season the crop would be scanty and the cultivator would need to pay more attention to stopping to get well-balanced heads and form wood for next season's forcing. I do not care for sucker growth from the base to renew failing pot trees as they rarely look well and are difficult to check, as such growth is more barren than when it proceeds from the main shoots. I am aware there is no limit to age as regards figs, but from careful observation I find unless the trees make a free growth yearly, stunted trees or those with poor wood do not produce the fine fruit that is expected. So much depends upon culture that any neglect means years of careful stopping and forcing to build up good wood. As regards potting of forced trees, I prefer the late summer, before the embryo fruits show, and as noted previously would not pot at all if the trees are large, preferring to top dress and feed liberally. I recently saw a number of trees quite barren. These had been treated too well. A few fruits set, but when nearly full grown they turned yellow and dropped, the growth being too vigorous. My advice was to well ripen the wood and not to pot for three or four years, and by starving the trees there will be less gross growth. Here the starving, if it can be properly

termed starving, is advised, as few fruit trees go wrong sooner than Figs if the roots are not checked. In potting, a free use of burnt refuse or wood ashes and old mortar rubble is of great value in building up short-jointed wood. It is the gross shoots which cast their fruits most. Hard or firm potting is of great importance, and it is well not to expose too much moisture after potting. Free exposure is required up to the time the trees are started, and I need scarcely add there is no better time to cleanse them than at the season of potting, growth then being at a standstill. Few fruit trees are so subject to the attacks of scale as the Fig. The same remarks apply to small trees to be grown on for future forcing. Early potting is conducive to early ripening of wood, thus preparing the trees for future work, and as young trees soon make large heads, avoid large shifts and get short-jointed wood. We now come to

PLANTED-OUT

trees. Here the culture is different. In their case it is essential to get new wood or leaders occasionally and to remove barren or naked wood. The work should be piecemealed, as the same evil results follow if gross sappy wood is laid in; a shoot or two every season is preferable to severe cutting down. Crowding is a great evil with Figs, and few trees sooner cease to give a heavy crop if stopping and thinning are neglected. There should be no delay in reducing gross wood at this date with barren trees, and in doing so select soft wood, not the short firm shoots which proceed from the leaders. The fruit is produced on the points of the shoots, and if these are shortened—only leaving a few gross leaders—the first crop will be a failure. This advice is only intended for those who may have had poor crops. Some of the less known varieties fruit so sparingly that at all neglected that it well to get a good first crop. The most prolific forcing Fig I have grown is the St. John's. It is a white Fig and lacks the good quality of the dark kinds, but it is valuable for hard forcing if the top growth is kept well in hand, as like most kinds, it soon runs to wood if left alone. The best of all Figs is doubtless the Brown Turkey. Negro Largo may be liked by some, but there is no doubt that Brown Turkey is far better when crop and all points are considered, and if only one variety is grown I would advise it. As regards

OPEN-AIR FIGS

the culture is much the same, as, unless there is good wood, there is a mass of gross, barren, sappy growth, of no value to the grower. My plan, when I had a good wall of trees in the west of England, was to train thinly and remove a portion of the wood yearly, cutting out long, bare wood, laying in new, and getting the remaining wood for the next season well matured. Sucker growths are not required. I admit at times one is obliged to resort to suckers after severe weather, but in favourable seasons one can usually get good wood in abundance from the leading branches. Endeavour to preserve a good portion of wood with firm points, which are produced from the side of the main stems, and if stopped early these will have formed embryo fruits for next season. Stopping through June and July is important, as then the fruit is being matured for next season, and by this early stopping, the fruit which is swelling gets more freedom to ripen and colour. It is impossible to get good fruit in abundance from trees allowed to carry gross wood and fruit. With wall trees much finer fruits may be had by attention to details, and not only better, but earlier fruits. From close observation I note the Fig, where it succeeds, rarely fails to

EARLY-FLOWERING CHRYSANTHEMUMS AT THE AQUARIUM.

FOR several seasons past the show of Chrysanthemum blooms got together at the first of the series of exhibitions held yearly under the auspices of the National Chrysanthemum Society has been good and not over-interesting, that of the 1st inst. being no exception. It may be the prizes are not sufficiently inviting to induce a great number of exhibitors to pay that extra attention needed in the case of producing flowers for show. But another cause appears to me to be this. The Chrysanthemum is so much associated with autumn and winter, that many shudder at the sight of such emblems in their greenhouses so early as August and September. The colours of most of the sorts, too, are dull and dead among the brilliancy of such flowers as the increasingly popular Cactus Dahlias. In the outside garden, however, Chrysanthemums that bloom early give variety and the flowers last a long time in a cut state. Hero the whites, yellows and bronzes do indeed make a bright display, but, unfortunately, highly coloured kinds are not forthcoming. Yet it cannot be said that raisers neglect them when one enthusiast in France sends to this country over 100 reputed new kinds in a single season. Curiously, the early sorts generally do not lend themselves to the production of big blooms, hence another reason of their failing to attract attention. Notable exceptions are Mme. C. Desgrange, white, and G. Wermig, a yellow sport from the former. Two stands of a dozen of each were exceedingly pure and beautiful at the exhibition mentioned. Apart, however, from these and a nice group, principally composed of the two varieties named, there was very little worth commending.

A recent inspection of some acres of these early flowering Chrysanthemums in full bloom has not altered my opinion that there are only a select few sorts worth growing. Desgrange as a white is not equalled by either Lady Fincannon or La Vierge, although the two latter are nice bushy, free-blooming kinds. G. Wermig is the best yellow; M. G. Grinnerwald is a favourite pink, but this sort does not always grow well, and I noted Mme. Marie Massé a better kind in every way for outdoor flowering. It is dwarf, bushy and very free-blooming. M. Dupuis and Mme. Z. Lionnet, both bronze-coloured, are useful. Roi des Princes is about the best of a dark red colour. Harvest Home is also good, but somewhat tall in growth. Arthur Crepy is a nice primrose kind with a

crop if due attention is paid to stopping. Get a fair amount of new wood well matured and laid in, with room to develop, and fruit in quantity and of the best quality will be obtained. There are many more failures to produce Figs by inattention in the summer than by severe winter losses of fruit, and barren trees are put down to our bad winters, but in many cases the wood is not ripened sufficiently to stand severe weather.

G. WYTHES.

Pear Bourre de l'Assomption.—This is one of the finest early Pears grown, coming into use as it does before Williams' Bon Chrétien and Souvenir du Congrès. It is large, of very handsome appearance, and in flavour and texture of flesh much resembles that magnificient Pear Doyenné du Comice. I have seen it stated that it is equally as good a grower on the Quince as on the Pear stock, but my experience is quite the contrary, as I am unable to get it to succeed at all on the Quince, and no amount of coaxing would induce the trees to make healthy growths. I have rooted them out, but intend starting afresh with trees on the Pear and hope then to succeed, as I have such a high opinion of this variety that I do not like to be without it. No doubt in many places a warm position on a wall would have to be accorded to it.—S. E. W.

Pear Clapp's Favourite.—A good September Pear introduced from America. It is of hand-some appearance growing to a large size on cordons trees on the Quince. On the Pear stock it is very prolific, but the fruits do not attain to so large a size, otherwise as regards appearance and flavour they are about equal. The skin of this Pear takes on a grand colour when thoroughly exposed to the sun, and it then much resembles Louise Bonne. Like the latter kind, the skin is freely dotted over with russet brown spots, which greatly add to the appearance of well-developed fruits, and it also possesses a perfumed flavour when fully matured. It is not a long-keeping Pear, but with me it remains in good condition for a longer period than Souvenir du Congrès, and makes a valuable addition to the dessert.—A. W.

Peach Exquisite.—This fine Peach belongs to the yellow-skinned section, and is deserving of extended cultivation, its large size, handsome appearance, and exquisite flavour rendering it a desirable variety for midseason and late house culture. I am now gathering fine fruits from a tree on the back wall of a Peach house, and they are really all one could wish for as regards size and quality, but are rather deficient in colour owing to the position the tree occupies. In a better position the colour would be much improved. The fruit is fine, glaucous, and may be mistaken for those of Walburton Admirable, but comparing the two together the difference is at once apparent. Exquisite is rather elongated, while Walburton Admirable is a roundish fruit. The tree is a good grower and makes plenty of wood. The flowers are large and do not set freely unless fertilised with pollen from a small-flowered variety. This is its only drawback, and that is easily overcome by artificial impregnation in the manner indicated.—S. E. P.

Pear Colmar d'Ete.—This useful early Pear, which is in blossom at the present time, is superior both in point of flavour and productiveness to Bourré Giffard, which it greatly resembles. The tree is also much more hardy, and may be grown either as a bush or pyramid in the open air without any misgivings as to its succeeding. Grown in this form it crops freely, but the fruit must be thinned if good examples are required. Although of no use for storing, this Pear is valuable, and when gathered before the fruit assumes a deep yellow colour it is excellent. Unless well thinned the fruits are medium-sized to small, roundish, obovate in shape, with a shining smooth skin, freckled with russet dots, deep yellow in colour when ripe, with a scarlet flush on the side where fully exposed to the sun. The flesh is very juicy,

half melting, and the flavour, as before stated, is excellent if the fruits are gathered before they are over-ripe. The tree is a good healthy grower and succeeds well on the Quince.—A. W.

Peach, Raymacker's.—I have a young tree of this distinct variety, carrying at the present time a crop of twelve dozen fruits, all of which are of good size and highly coloured. Raymacker's Peach is somewhat like the old Walburton, but far superior to it in every way, and it colours easily. It is a vigorous-growing variety and also crops very freely. The tree in question, which is on a wall facing due west, has failed to fruit but once since planted in its present position. A tree of the same variety planted against a south wall is also equally fruitful and satisfactory. In an ordinary season its fruits do not ripen until the first or second week in September, but the hot summer weather has made a difference of a fortnight this season, and the flavour is delicious.—S. E. H.

Australian Oranges in London.—The Orange groves of New South Wales are famous throughout Australia, and the British public will soon be afforded an opportunity of testing the quality of the fruit. The knowledge that the Tasmanian growers have established a flourishing export trade in fruit with London, sending as many as 250,000 cases in a season, has induced the New South Wales Government to forward an experimental shipment of Oranges to England this autumn. The fruit has just been despatched in the steamship *Ophir*—1700 cases in all—and should be on sale early in October. The Government are prepared to spend £1000 on the experiment, but they are confident that the consignment will more than cover the cost. The fruit will come in the cold-storage chamber.

GOOD FRAME MELONS.

WHILE the majority of Melons will grow and crop well enough under Melon house treatment, many of them are anything but certain, grown in pits and frames, especially if the summer happens to turn out wet and sunless and labour cannot be afforded for the building up of linings to preserve both the top and bottom-heat. More often than not when once the bed is made up and planting completed, no after additions of fermenting material are made, the crop of fruit having to contend with sudden and often great fluctuations of temperature and ripen off as best it can, although considering that a maximum of heat is absolutely necessary to ensure perfect flavour in Melons, the renewal of linings should be attended to, even if other work is suspended for the time being. Yet there are Melons which on account of their free setting qualities and hardy constitutions generally, will submit to rough-and-ready treatment with impunity. Perhaps the variety which does the best of any in a cool temperature is Little Heath, a large scarlet-fleshed variety, but then its quality is so inferior, except in extra hot summers, that few care to grow it. Probably for all-round excellence no Melon is suited for the purpose so well as that good old green-fleshed variety Bramham Hall. It is still to be had true from several firms, and even for ordinary house culture is worthy of being included in the most select list. I have seen this Melon planted in pits facing south from which successive lots of forced Potatoes had been lifted, and from which most of the bottom heat had departed. Yet they made wonderful and speedy headway and ripened off good well-flavoured crops of fruit. Of course, in this case they were not planted till June. Gunton Orange, though worthy of the best cultivation possible, is a capital sort for frame culture, setting most freely in a comparatively low temperature, and swelling off far quicker than most varieties. A correspondent last sea-

son noted this fact in THE GARDEN. This is doubtless one of the very best scarlet-fleshed varieties in cultivation, its useful medium size being a great point in its favour. Another good scarlet is Scarlet Premier, one of Mr. MacIndoe's Melons, and hard to beat at any time. It is of oval shape and well netted. Heckfield Hybrid may well be included. Having an exceptionally good constitution, it is well suited for the purpose named, and although, as a rule, frame-grown Melons do not reach their normal size, they are quite large enough, and the flavour, even in a minimum amount of heat, fairly good. Lastly, a Melon of recent introduction and very suitable for this kind of culture is Hero of Isleworth. This medium-sized fruited variety possesses a wonderfully hardy constitution, produces short-jointed wood, and often bears fruit on the first formed laterals. Few sorts arrive at maturity so soon as this. Notwithstanding the extra hardy characters of these Melons, success cannot be expected unless ordinary attention is given in the matter of duly thinning and regulating growth, supplying the roots with tepid water, and closing early in the afternoon, so as to husband sun-heat.

J. C.

CULTIVATION OF PEARS UNDER GLASS.

PEARS are such a fickle crop in some parts of the country, even when afforded the protection of walls having warm aspects, that it is almost sheer waste of time to attempt their cultivation at all outdoors. It is then that their culture should be tried under glass, for timber and glass are now so cheap that the building of a suitable house which need not be either elaborate or costly, can be done so cheaply that owners of gardens can hardly put forward the question of expense as a plea for not doing so. With a good-sized house such as will be presently described, all who appreciate well grown and superior Pears, and who are at the same time debared from cultivating them outdoors through adverse climatal conditions, may secure a good supply of fine fruit if strict attention to details of management is paid. Pears are by no means difficult subjects to cultivate under glass if anything approaching to forcing is avoided; in fact the more naturally they are grown the better they will succeed. High temperatures and a close stuff atmosphere they cannot endure, and this important fact should be taken into consideration when designing a Pear house, providing ample ventilation on this account.

With these few introductory remarks, the first that to consider is the most suitable kind of house. On the whole I think that generally designed a lean-to is the best, and it should have a back wall of good height. The front of the house should also be sufficiently high to allow of the front ventilators being of a good width, and these and the top ventilators also should be constructed to open simultaneously. The width of the house may be from 15 feet to 25 feet, but this, as also the length, must be governed entirely by the number of trees it is intended to grow in it. The doorways should not be less than 3 feet 6 inches wide to admit of the water-barrow or garden engine passing through easily, and a good stout gangway should be constructed for walking and wheeling upon. With respect to hot-water pipes, only sufficient are required to keep the inside temperature above the freezing point while the trees are in flower, and it is only on rare occasions that they will be employed afterwards unless it should be to assist the ripening during un-toward weather in the autumn. In such a house as has been briefly sketched, Pear trees may be grown in a variety of forms. For instance, the back wall may be devoted to cordone or diagonal trained trees, preferably the former, as more varieties can then be accommodated with a greater certainty of continuity of succession in the crops.

If the house is of good width, necessitating the employment of iron standards as roof supports, single cordons may be planted and trained to them also. Again, if there is head room in the front of the house, a horizontal wire trellis may be constructed reaching from end to end, and on this diagonally trained trees may be grown. The body of the house may then be filled with either bush or pyramid trees. I prefer the former form of tree, and they may be grown in large pots or tubs or be planted out. If the latter method is adopted a properly constructed border will be required throughout the house, while if it is decided the bush trees are to be in pots it will be only necessary to make borders in those parts of the house where the cordons and trees at the front of the house will be planted. In the latter case borders 4 feet wide and 3 feet deep will be sufficient, and this depth will also include the drainage. When this question has been decided

FORMATION OF THE BORDERS

must be taken in hand and the staple excavated to the required depth. Whether or not any of the excavated soil is to be retained or not will depend entirely on its character. If fairly good, part may be reserved for mixing with the new, and should be placed on one side for that purpose. The Pear succeeds best in a rich loamy soil, not too heavy nor too light, and loams and soils that do not come up to this standard should be corrected by adding whatever may be deficient. Light loams may have road sidings or some marl mixed with them, with an addition of half-inch bones and bone-meal, and heavy loams cannot have a better corrective than old plaster, or lime rubble and wood ashes, with the same quantity of bones and bone-meal added. The two latter ingredients should be used in the proportion of a half cwt. of each to every ton of soil, and all should be well mixed together and thrown into a large heap a few days before it is required, covering the heap with a tarpaulin should rainy weather intervene. After the whole of the soil has been excavated a drain should be laid for carrying off the water, and then get in the drainage, which may consist of stones or brickbats, with a layer of clinkers or smaller metal placed on the top, making a depth of 6 inches when completed. On this lay whole turves, grass-side downwards, or, failing these, long manure, to prevent the finer particles of soil from choking the drainage, and then wheel in the prepared soil. Level it down and make firm by treading, and allow it to remain as it is until the time comes for planting, when it will be found to have settled down considerably, and after another good treading the border will be in good condition for getting the trees set out.

PLANTING

would of necessity have to be deferred until the time comes for lifting fruit trees, but this will not interfere in any way with the "selection of the trees," which may be done at any time now. For this purpose a fruit tree nursery of good reputation had best be visited, and a selection made on the spot, and whether the trees are bushes or cordons they should as far as practicable be worked on the Quince stock. Trees on the Pear stock make stronger growth, require lifting to keep them fertile when planted out. Choose nice symmetrical bushes, and the cordons should have clean, healthy stems from 5 feet to 6 feet long, and diagonal-trained trees should have from two to three tiers of branches, with a good healthy leader. When the trees come to hand in the autumn, planting and potting, as the case may be, should be undertaken at once. The planting should be carefully done, and work fine soil down among the roots, making doubly sure they are properly covered by watering them home afterwards, and tie the trees provisionally to the trellis or supports. Care should be exercised in the potting—for which the same kind of soil as recommended for borders will suffice—to see that all the interstices between the roots get filled in, and make all firm by ramming. Fourteen-inch pots is a good size to use for this purpose: drain

them well, and sprinkle soot over the crocks to keep worms out. Before either potting or planting trim off all injured roots, and it may be found necessary to shorten back some of the stronger ones tenable them being got into the pots, and if at all necessary, soak them for a few minutes in a bucket of water. The pot trees may be stood on the floor of the house during the winter, but to economise labour will the trees are in active growth the pots may be plunged to the rim, placing them a sufficient distance apart to enable the attendants moving amongst them without damaging them. The next consideration is

SELECTION OF VARIETIES,

and in the following list will be found Pearss possessing excellent qualifications as regards popularity and productiveness, and nearly all are good growers. Beurré de l'Assomption, Williams, Souvenir du Congrès, Duchesse d'Orléans, Jersey Gratioli, Thompson's, Beurré d'Amanlis, Pitmeadow Duchess, Marie Louise, Louise Bonne, Doyenne du Comice, Chaumontel, Maréchal de la Cour, Glou Morceau, Beurré d'Arenberg, Winter Nelis, Bergamot d'Esperen, Olivier de Serres, and Perrain Perrain may also be included as an experiment, although I have had no experience with it myself. Beurré Hardy, Althorpe Crassane, and Beurré Superfin may also be added to the above by those who wish for a more extended list of varieties. The

AFTER MANAGEMENT

will consist of admitting plenty of air while the trees are in bloom during favourable weather, and even if it should be unfavourable a little air is always beneficial. Here the hot-water pipes will come into play, and they should be heated just sufficiently to enable air being kept on night and day. On bright mornings the temperature will run up quickly, but no harm will result providing the ventilators are opened by degrees to allow of a free circulation of air, and the doors may also be stood open so long as the sun continues to shine on the roof. As a matter of course, the fire-heat should be turned off first thing when the day promises to be fine and bright, and it should not be turned on again until nightfall, unless a fall in temperature or change in the weather should warrant its being done. The maximum day temperature without fire-heat while the trees are in bloom should be 45° and 40° as a minimum temperature for the night. During the flowering of the trees they should be shaken several times a day, or be run over with a camel's-hair brush or Fampas plume. The introduction of a hive of bees would also ensure fertilisation. The root must be kept properly moist at the roots while they are in bloom, otherwise they will fail to set. Once the fruit is set and the trees are well clothed with foliage they will require water frequently, especially pot trees. During the summer weather the latter frequently require watering two and three times a day. Planted-out trees do not want watering so often, and a mulch of short manure laid over the borders will prevent them drying up so quickly, and the same remark applies in an equal degree to pot trees when plunged. For pot trees stimulants are almost absolute necessity if fine fruits are looked for, and this may consist of diluted farmyard liquid, home-made liquid or guano water, changing it about every other week. If the borders are fairly rich in which the permanent trees are planted, they will not need stimulants for the first season or two, but when they do require it, that recommended for pot trees is equally good for them also. When summer weather sets in the trees should have all the water they can get, and if it is possible to afford them, and to this end the leaders should be stood open to their fullest extent and the doors also. Damping of the pathways and borders would also be of great benefit, practised two or three times a day, and syringe the trees thoroughly every afternoon. All side growths on the bush trees and the breastwood on cordons must be pinched and repinched as often as necessary, but leave the leaders intact. These should be tipped at the winter pruning and allowed to grow on again next season, repeating

the operation every year until the trees have filled their allotted space, when they should be pinched to three or four buds. As the fruits approach maturity the syringing must be discontinued and a drier atmosphere maintained in the house, but the roots must not be allowed to want for water. After the Pears are gathered give the trees a good washing and crowd on all the air possible, and when the leaves fall the trees may be pruned and put in order ready for the following season.

A. W.

Yellows in Peach trees.—I am obliged by your answer to my inquiry in a recent issue, and now enclose some leaves of the trees to aid you in discovering the cause of the yellowness of the leaves.—D. R. S.

. As anticipated, this is a bad case of the "yellows," and it is at the roots where the remedy, as advised, must be applied. In all probability the trees were planted much too deeply in the outset, and bringing the roots up to nearer the surface and relaying in quite fresh soil will soon restore the trees to a much more healthy state.—W. I.

Melon Royal Favourite.—This handsome and highly flavoured green-fleshed Melon is sure to become very popular. It is both an exhibitor's and a connoisseur's Melon, combining size, symmetry, and handsome setting with a thick, rich melting flesh. All Melon growers like a handsome variety, but few care for sacrifice quality for appearance. Gardeners cannot make a mistake in giving Royal Favourite a trial. Last year I sent a few notes in praise of this new Melon, grown at Hillside, Newark, and this season the crop was even better than last. By feeding fruit may be produced up to 6 lbs. in weight, but the usual weight under ordinary cultivation averages from 3 lbs. to 3½ lbs., a most convenient one for general purposes.—J. C.

Local Apples.—A short time ago there were some interesting notes in THE GARDEN under this heading showing that in most localities there are some good Apples known only under local names. In proof of this I may add an illustration that occurred recently when I was judging at a cottage show near Axminster. There were several dishes staged both for dessert and cooking; but one dish in the former class stood out conspicuous. My colleague singled this out, and when we cut the fruit it was found to be the best dish out of upwards of a dozen. It was something in the way of Irish Peach, but larger and longer, and more blunt at the footstalk. It is known in Exeter as Louis Pippin. A few days after this the same kind was placed first in the dessert class at Axminster, one of the judges being Mr. Garland. I consider it a very fine early kind and one that should be better known. Can any reader of THE GARDEN give any information as to the origin of this and where it can be obtained, and if it is a Devonshire Apple; also whether it is a good bearer and grower, and if known under any other name?—JOHN CROOK.

SHORT NOTES.—FRUIT.

Plum Victoria.—In this garden I have of this a very old tree—at least fifty years old—still in the best of health. The fruit from this is in every way exactly like that from three other young trees, except in colour. The fruit from this old tree is much darker, almost black on one side, and is a better keeper. In growth, foliage, &c., both kinds are alike.—JOHN CROOK, Forde Abbey.

Apricots.—I agree with Mr. Crawford in the main in his note on Apricots (p. 156), especially where he points out that branch-pruning is to be preferred to the cutting back of the leaders. Regarding soil for Apricots, I cannot agree that very light soil is good. When I lived for eleven years in North Hants, on a light, hot soil Apricots were not a success. I find in this garden chalk is most helpful in a strong soil. No fruit tree needs more water in the growing season than the Apricot. Moor Park I cannot give up; it is now (end of August) giving good fruit.—JOHN CROOK, Forde Abbey.

TREES AND SHRUBS.

CHOISYTA TERNATA IN CORNWALL.

THE Mexican Orange is, in my estimation one, of the most beautiful plants introduced during the present century, but it does not appear to be so well known as it deserves, for it is seldom met with out of Devon and Cornwall and the Isle of Wight except as a pot plant under glass. I see in some gardening books it is described as a stony evergreen shrub, but in this county it has proved as hardy as the much-grown Escallonia macrantha. It grows, blooms, and can be propagated quite as freely as that favourite

The bush measures 15 feet by 8 feet by 8 feet high.
W. SANGWIN.

Trelissick, Truro.

The forests of Russia.—These, exclusive of those of Central Asia, Caucasia, and Finland, extend over a space of 475,000,000 acres, or about 40 per cent. of the total area of the empire in Europe. This is equivalent to an acre to each inhabitant, which might suffice to meet the requirements of the country in this respect if the ratio of the forest to the population were uniform. But in reality in the densely-populated regions of Southern Russia woodlands are scarce, while in the four most northern provinces there are nearly 70 acres of forest to each inhabitant. The disadvantages of this unequal disposition of the forest are aggravated by the immense distances which separate the thinly-wooded districts of the south

year. The age is unknown, but locally it is supposed to be 2000 years old.—C. REEVES.

ORCHIDS.

CATTLEYA HARRISONIANA.

THIS is a very old species, it having been in cultivation upwards of sixty years. A good variety of it may even now be reckoned as one of the finest Cattleyas in existence. The plants usually attain a height of about 18 inches, the cylindrical pseudo-bulbs bearing each a pair of leaves at the apex. From between these issues the flower-spike, each blossom measuring from 4 inches to 5 inches over; the colour is a pretty rosy suffusion over a white ground, reminding



The Mexican Orange Flower (*Choisya ternata*) at Trelissick, Truro. From a photograph sent by Mr. W. Sangwin.

shrub, while its pure white, exquisitely scented flowers form a lovely contrast to the glossy green foliage and pink flowers of the Escallonia. It flowers here twice and sometimes thrice a year, and I think is much harder than most people imagine, for I have known it to stand 17° of frost without the least injury. It can be propagated freely from cuttings in a cold frame, or even in the open border, roots as freely as the common Laurel, and is certainly as hardy as the Sweet Bay. It is not at all particular as to soil or situation, but a sheltered sunny corner in deep loamy soil suits it best.

The plant figured is now (August 21) flowering for the second time quite as well as when the photo was taken—in the first week of April.

from the rich forests of the north, by the lack of water communication and the cost of carriage by rail. Plans for reforesting parts of the denuded area are therefore under consideration by the Government, and since private owners cannot be trusted to look forward to future supplies, there is no doubt that the empire will assume the guardianship and administration of these forests.

An old Yew.—I send you a photo of the old Yew tree which stands in the churchyard at Daley Dale. It is 33 feet in girth 5 feet from the ground, and is one of the finest old Yews in the kingdom. The top has been cut off, likewise some of the largest branches, and those that remain are supported by iron rods to the trunk of the tree, which is quite hollow throughout, but still continues to send out young growth every

one somewhat of *Miltonia vexillaria*. Coming from Brazil, *C. Harrisoniana* thrives in the ordinary Cattleya house temperature, and likes the lightest position where plenty of air is afforded it. Only enough shading to keep the foliage from being scorched is necessary even in the hottest weather, and in winter the plants must be kept well up to the glass. The plants usually commence to grow in early spring, and the compost should at this time be put in order. It is not wise to disturb the roots more than is really necessary, but when the old soil about them is seen to be in poor condition there is nothing gained by leaving them; in fact, the reverse. The roots of this Cattleya grow very closely together, and unless the old compost is

well worked out from among them at potting time, this soon forms a hard mass in the centre of the pot that is quite impermeable to water and which the new roots cannot enter. To prevent this forming, have a pointed stick, and as soon as the plants are turned out, work this well between the old, healthy roots, and cut away the decayed ones. This makes room for new material, so that should back-breaks appear on the old rhizome they have nice sweet material to push into, this materially strengthening the growths. The habit of this Cattleya is to produce bulbs at some little distance apart on a semi-creeping rhizome, and this tends to bring the new growths to the rim of the pot more quickly than some others. At potting time arrange the bulbs to prevent this as far as possible, bending the rhizomes and afterwards pegging them in the required position, or in some cases making an incision partly through, with a view to inducing back-breaks, though this latter is best done in autumn after the plants have finished growing. The pots may be broad rather than deep, quite clean and well drained, with clean crocks covered with a layer of rough Moss. The usual compost of peat and Moss used in a rough and open condition will be most suitable. The base of the plants should be kept up a little above the rim of the pot, and a neat stake placed to each leading growth to keep it steady until new roots are forming. For plants in better order at the roots it would not, of course, be necessary, as they would not be so much disturbed, but taken all round it is not wise to be over-punctilious about this matter, for although at the time of repotting some of the older material seems fairly good, it will probably soon sour when growth recommences and water is more freely given. The time of flowering varies according to the time the plants begin to grow, and to a certain extent, of course, to the rapidity of progress, according as the season is propitious or the reverse. From the end of July to October is, however, its usual flowering season, and from the time that roots are emitted from the base of the new bulbs until the flowers are past and the new growths fully matured the water supply must be very good. After this less will be required, and if by exposure to sun heat and air the pseudo-bulbs have been thoroughly hardened and ripened, but little water will be needed in winter to prevent these shrivelling.

In early spring care is necessary not to wet the young growths, especially with cold water, this causing the outer sheaths to turn black and bind the young growth, preventing it swelling freely and making it very liable to damp off. The troublesome soft white scale that infests all Cattleyas more or less seems especially partial to *C. Harrisianiana*, and care should be taken that it does not get a hold or it will be difficult to get rid of it. It affects the underside of the scales on the bulbs and the rhizomes where it is difficult of removal. As soon as it appears the plants should be thoroughly sponged, every leaf and bulb being done with soft soap well diluted. There are several varieties of this Cattleya, some of them of a very deep shade of rose, others nearly white, but one and all useful Orchids worthy of every care.

Cypripedium Electra.—This is a beautiful hybrid Cypripedium raised by Messrs. Veitch. It is a free-growing and floriferous species, the blossoms occurring on tall scape. The dorsal sepal is very variable in shape, of a good *C. insigne*, the upper portion and the margin at each side being pure white; below it is green with purple spots. The petals and pouch are brown. *C. Electra* does well in a shady position in the Cat-

tleya house and may be allowed a tolerably heavy compost. Two parts of good fibrous loam to one each of peat fibre and chopped Sphagnum will grow it well, plenty of crocks being mixed as potting proceeds. Good drainage is necessary, as absence of water must be given while the plants are in active growth. The parentage of this fine hybrid is not known with certainty but *C. insigne* was doubtless one of the parents. In the glossy appearance of the petals it resembles *C. villosum*, so this or one of the hybrids raised from it may be the other.

Dendrobium mutabile.—This is an old species and by no means common in cultivation. The stems are cylindrical and erect, bearing a large number of rather small light green leaves and at the apex a ten or twelve-flowered panicle. The colours of the flowers in these are changeable in colour, sometimes white with yellow markings, at others the petals and sepals are flushed with rose, the lip tinted with a deeper yellow. It is best grown in the East India house in a rough open compost, and when the plants are strong enough to throw up growths upwards of a yard in length, fairly large pots and a good thickness of material will be needed. It is an evergreen species and must be treated accordingly. It is a native of India and was introduced in 1844.

Lycaste Barringtoniae.—This is an interesting species with large fleshy pseudo-bulbs, from the base of which the flower-scapes are produced. The flowers are greenish white, with pointed sepals and petals and a small purple lip. Grown at the cool end of the Cattleya house in pots in a compost of equal parts of peat fibre, Sphagnum Moss and loam, it will usually be satisfactory. The pots must be large enough to take the plants easily and plenty of water is needed all the year round, especially when growth is most active. It is a native of Jamaica, and was introduced in 1790, so is one of the oldest Orchids in cultivation.

Acropora Loddigesii.—Though hardly to be classed as a showy plant, the blossoms of this Acropora are quaint and interesting, and to lovers of this class of plant will be welcome. The habit is rather dwarf and the pseudo-bulbs grow closely together like those of Gongora, to which genus the plant is assigned by some botanists. From the base of the bulbs the flower-spikes issue, and they take a semi-pendent direction, each producing a number of the red and yellow blossoms. The Cattleya house suits it best, and for preference the plants may be suspended from the roof in baskets, though they will thrive in pots on the stage. The spikes occur at various times in the year, and the whole plant is in fact irregular in growth and rest. The roots are plentiful on healthy specimens, and consequently a liberal supply of water is needed when growing freely, this being greatly curtailed, but not entirely withheld, when at rest. The compost may consist of the usual mixture of peat and Moss, and in potting or basketing it is likewise to elevate the plants much, that they may have advantage as kept slightly above the rim of the pot. Fix the material firmly to the rim and water carefully for a time after disturbing them. Insects are not often troublesome, and should red spider or scale put in an appearance they may easily be got rid of by the usual means.

Scuticaria Hadweni.—This is quite distinct from the Whip Orchid (*S. Steelii*), and a handsome plant if well grown and flowered. In habit it resembles the terete-leaved *Brassavolas*, and was, I believe, known as *Epidendrum* before its introduction. The flower-areals are each about 4 inches across, much like those of *S. Steelii* in shape, yellowish with blotches of bright red on the sepals, the lip white, with lighter spots. The plants do best in a light, but not too sunny position, where there is plenty of atmospheric moisture. The temperature of the Cattleya house is high enough for it, the flowers being more freely produced on plants that are not kept too hot or unduly shaded. While growing, care is necessary not to touch the points of the leaves,

as this makes them turn brown and often checks their growth. It dislikes a large body of material about its roots, and thrives well in shallow baskets or pans nearly filled with drainage, or it may be grown on blocks if these are well dressed with Moss, but it requires close attention to do this. If cultivated in this way, the compost for baskets may consist of three parts of Moss to one of peat fibre, with any sand or earthy particles, but plenty of crocks broken finely. The best time to repot is the early spring, and watering must be done carefully for a time afterwards. *S. Hadweni* is a native of Brazil, and has been in cultivation since 1851.—H. R.

Cypripedium insigne.—This old and useful species I have met with in flower this week, and never remember seeing it so early before. The plants were old specimens, and growing in stages, and I had doubtless something to do with their appearance. While not agreeing with this mode of culture it is suggestive of what may be done to prolong the blooming season of this old species, for plants grown cooler would of course follow them and keep up a long succession of blooms. The flowers are useful for table decoration, for they may be used a couple of nights, then put in water for a week or even longer and used again as fresh as ever. Neglected as the plant is, one at all events never seems to have too many of its quaint and pretty flowers.—R.

Cypripedium chloroneurum.—This belongs to the same set of hybrids as *C. callophyllum* and *C. politum*, and is one of a batch of seedlings raised by Mr. W. Warner, of Chelmsford. Its parentage is doubtful, but *C. barbatum* and *C. venustum* have been suggested as the species from which they were raised. The dorsal sepal is yellowish green, edged with white and veined with dark green and purple. The pouch is like that of *C. venustum* in shape, but larger and brighter in colour, the petals green and purple. It is a very free blooming and easily grown plant, with very ornamental foliage. A shady, moist position in a warm or intermediate house suits it well, and it will thrive if treated as advised for *C. barbatum*.

DENDROBİUM BIGIBBUM.

ALTHOUGH not so large and showy as the nearly-related *D. Phalaenopsis*, this is a charming Dendrobium and distinct from anything else in the genus. It is usually under 1 foot in height, the pseudo-bulbs, thickened in the centre, tapering to each end and bearing a few leaves only towards the top. Like *D. Phalaenopsis*, the flower-spikes issue from both old and young bulbs, and these contain from ten to fourteen blossoms. The sepals and petals are rich magenta, the lip maroon, with a white centre. *D. bigibbum* requires plenty of heat to grow it well, and should be suspended from the roof of the East India house, where it can obtain plenty of light. The most critical time in the year is the winter, for often the plants at this time are full of young growths. They start early, and it is important that they be not checked on the one hand by a dry atmosphere, or grown too weakly owing to superabundant moisture. In the late case they will usually be soft and of a green tint; consequently in spring, when bright bursts of sunshine alternate with cold and dull periods, these weakly shoots damp off wholesale. They must then be kept gently moving, giving air to all possible occasions and allowing nothing to come near them except the light, thus maintaining the best of possible conditions for them. When once they become injured to the altered state of affairs in spring the trouble may be said to have passed, and it becomes much easier to keep up the brisk temperature and well-balanced atmosphere that all tropical Dendrobiums delight in. At this time it will be found necessary to water freely, for root action will be rapid, and the sun and abundant air currents soon absorb the moisture from about the plants.

D. bigibbum may be described as rather a restless species, but still, when the bulbs are quite mature it is all the better for a steady mode

of culture. It must not be kept absolutely dry at any time, but may with advantage be placed out of the heat and moisture of the East Indies summer temperature to where rather cooler and drier conditions prevail, still keeping the plants in full light. It will thrive either in baskets or small pans, the few details noted above being of much more import than the receptacle in which it is grown. The roots, however, dislike a large body of material, they also abhor frequent and untimely disturbance. Seize the opportunity when it is seen that new roots are being freely emitted from the young growths, as this will prevent anything in the way of a check, and give the plants a good hold in their new home. The roots, though small, are persistent, and the compost may on this account be somewhat firmly pressed into position, trimming off all ragged ends neatly, and watering very carefully until the roots are well on the move. *D. bigibbum* is one of the few Dendrobes inhabiting the Australian continent, and has been in cultivation since 1824.

ROSE GARDEN.

ROSE A. K. WILLIAMS.

WHEN this Rose was sent out in 1877 by Monsieur J. Schwartz it was considered so delicate a grower to rank among any but those

great merit of seldom producing any but perfectly finished blooms. Deep carmine-red when first opening, changing to a more or less magenta hue with age, every flower bold and upright, with good lasting flowers and exquisite fragrance, it is indeed difficult to select a more deserving favourite among dark red Roses than the one under notice. In all Rose elections since this variety has become known it stands very close to, if not absolutely at the top of its class. Among mixed classes it is generally in the first three or four. It is not so long-lived as many when grown upon the Manetti, but its earliness when grown upon that stock, especially as a maiden, makes it well worth cultivating in this form. The Briar stock gives a more lasting bloom, and is much the best for autumnal flowering. A. K. Williams is useful for forcing, making a neat, compact plant, and carrying from three to twelve blooms at one time in a 6-inch or 8-inch pot. S.

Rose Homère.—“Dorset’s” just and well deserved estimate of the many merits of this Rose (p. 155) was specially welcome to me. He is quite right about its forming a fine bush or mass anywhere. But as to Homère covering low walls, it will speedily do that and ask for more, and I have not yet met with any wall too lofty for Homère to climb and clothe with beauty to its highest summit. As to

gracilis, *Areca Verschaffeltii*, *A. rubra*, *A. lutescens*, *Kentia australis*, and dwarf *Caladiums* in variety. To these, however, may be added the following flowering plants in season: *Acacia*, *Drummondii*, *Glossias* in variety, *Succulents* with coloured berries, *Poinsettia*, *Oleander*, *Eriogonum*, *E. gracilis*, *autumnale*, *E. Cavendishii*, *Cytisus monspeliacus*, *Fuchsias*, *Pelargoniums* of several sections, *Mignonette*, *Begonias*, and such things. Then of plants suited to producing “button-hole” flowers, such things as a selection of *Tea* and other *Roses*. Next to *Roses* in importance are Carnations, both border and winter flowering kinds. Add to these such things as *Epiphyllums*, *Bouvardias* in variety, double *Primulas*, *Lily of the Valley*, *Thubaroses*, *Agathaea celestis*, *Gardenias*, *Euphorbia fulgens*, *Stephanotis*, and you will have an assortment of the best and most useful (though by no means all) for the purpose named. Apart from a host of pleasing and beautiful Ferns, also *Asparagus* in one or two varieties, there are not many things that can endure cutting and which at the same time are so useful as *Smilax*. The foliage of many of the Japanese Maples is very beautiful, and for pendant sprays some bits of *Virginia Creeper* are at times pleasing, while for small work some of the *Selaginellas* or *Panicum variegatum* are useful.—E. J.

FRUIT AND VEGETABLE CROPS.

NORTHERN.

Haughton Hall, Tarporley.—Some Apples, such as *Keswick Coxin*, *Lord Suffield*, *Warren’s King*, *Ecklinville*, *Lace*, *Prince Albert*, and *Wealthy* among cooking kinds, and *Irish Peach* and *Cox’s Orange Pippin* among dessert kinds, may be said to be carrying fair crops, but in a general way Apples will yield at most but half a crop.

Pears, too, are generally thin; to credit them with half a crop would, I think, do them ample justice. Apricots are carrying light crops; perhaps this is owing, in the case of trees in their prime, to the heavy crops produced last year. Peaches and Nectarines on outside walls are on the whole fair and the trees have made clean and healthy growth. The commoner kinds of Plums are bearing pretty well on walls, but not so well as standards in the open, while the finer kinds are very thin in all positions. Damsons are plentiful, but owing to the long spell of dry weather the trees are infested with red spider, especially when planted in hedge banks, as is often done in this part of the country. Morello Cherries are well cropped and the fruit is very fine. Sweet Cherries were not so abundant, but our trees are young. Bush fruit and Strawberries have been exceedingly plentiful and very fine. This is partly owing to a good mulching of manure the bushes and Strawberry plants got before the dry weather adversely affected them. I find Raspberry Superlative a grand variety; the fruit is not only freely produced, but of extra large size. The variety seems a good grower.

Vegetables of the whole have done well. Carrots are the only crop which may be said to be a failure. Many of our autumn-sown Onions showed for seed, but by taking off the bud as soon as observable they have swelled to a fair size. Spring-sown ones will be small. Peas, Beans, Beets, Cauliflower and Potatoes have done and are doing well. Celery and winter stuff of all kinds promise to be up to the average. Our soil is somewhat heavy and rests on clay.—T. WINKWORTH.

Underley, Kirkby Lonsdale.—We had a comparatively sunless autumn last year, which was the cause of fruit tree blossom being thin and weakly. Cherries flowered abundantly, also Strawberries, but a sharp frost on May 21 destroyed the promise of an abundant crop. Owing to a dry spring and summer, insect pests have been troublesome, and dropping of fruit has taken place. Among new Strawberries Royal Sovereign does well, but I cannot say the same concerning the Gunton Park varieties. In the average of



Rose A. K. Williams.

grown purely for exhibition. I well remember how my first half a dozen plants dwindled away during the winter of 1875-79. However, now it has got over the strain of excessive propagation, I find it is a fairly good grower and hardy. It speaks much in favour of this variety that it has probably won the medal as being the best Hybrid Perpetual in the show sooner than any other Rose. To win this coveted honour only once at the Crystal Palace exhibitions is no mean feat, but when we remember the occasions on which A. K. Williams has been to the front, there is little need to say it is one of the most perfect Roses of its type—imbricated. So much is this recognised, that when the National Rose Society wished to figure a variety as an example of the imbricated form, they chose this, at that time a comparatively new Rose. One of the earliest and certainly one of the very best late-flowering varieties in this extensive class, A. K. Williams also possesses the

its perfect autumn buds, they are admirable for button-holes or any other purpose. It is also refreshing to find such testimony as “Dorset’s” as to Homère being seldom out of bloom under glass, and that no kind gives more satisfaction for cutting. Most of us are familiar with its profuse blooming in the autumn in the open, but few seem to have had sense to give Homère a glasshouse to itself, like the *Marché*, *Perle des Jardins*, *Perle du Lyre*, *Mme. Hoste*, *Maria Van Houtte*, *Nipheta*, &c. Of very few of these, unless the last and Smith’s yellow *China*, now almost out of cultivation, can it truly be said that they are seldom out of bloom.—D. T. F.

Table and button-hole plants.—On page 134 a correspondent (T. Roach) inquires for suitable things for above, of which there is quite a large variety. Of the table plants some of the best and most popular are small well-coloured plants of *Pandanus Veitchii*, *Aralia elegantissima*, *Aralia Veitchii*, *Dracaena Lindeni*, *D. rubra* (*congesta*), *D. marginata*, *Cocos Weddelliana*, *Geonomia*

seasons amongst Apples we are sure to get a good crop from Stirling Castle, Anna Elizabeth, New and Old Northern Greening. Pears are thin, but good, especially M. Louise, Louise Bonne, and Bon Chrétien.

Vegetables have done well, and autumn and winter crops are promising. I wish allotment holders would lay to heart the great benefits of deep cultivation and the constant stirring of the surface, so that they could tide over a time of drought. I have tried many of the new Peas, but always rely on William I. Improved for early, Duke of Albany second, and Ne Plus Ultra late. Senator and Eureka are the best out of a number of three Peas I have tried.—W. A. MILLER.

Bolton Hall, Leyburn.—Apples in this district are under average. Pears are also much under average, as although the fruit set very freely, a large quantity failed to swell owing to the drought. Plums are an immense crop on walls. Apricots are over average. Strawberries have been an immense crop of splendid fruit, the rains of June benefiting them. All small fruits on bushes are a heavy crop.

Early Potatoes are good crops; the later varieties are looking well throughout, no sign of any disease whatever. Early Peas have been very good; later varieties are doing well.—F. SCRIVNER.

Birdsell Gardens, York.—In this district, with the exception of Strawberries, the fruit crops are on the whole satisfactory. Apples average; Peas average; Plums average; Peaches, Nectarines, and Cherries abundant and good; Apricots in glass shed good. Raspberries and bush fruits plentiful and good, and have been gathered in good condition. Strawberries that have been grown on good deep, well-manured soil and given abundance of water during the flowering season have done very well; those grown on light soils have been very poor crops. Sweet Cherries should be planted in greater quantities all over the country districts where they have not hitherto been grown. They are a very useful fruit and require very little attention when once established. One of the principal things to be observed is to let them grow as they like without pruning in any way when the trees are young. A little shelter by wall or shrubbery will help them considerably. I think if they do well on these Yorkshire walls they could do anywhere. This season they are excellent.

Vegetables are very good up to the present time. Potatoes have been good in quality, plentiful, and free from disease. Rivers' Royal Ashleaf is still one of the best of early varieties. I find there is a sensible growing demand for Broad Beans, one of the most wholesome and best of vegetables. During the past winter and spring I have grown Beck's Dwarf Green in heated span-roof pits. My employer, who is a good judge of vegetables, pronounced them excellent. They have the appearance of large Marrowfat Peas when dished up.—BAILEY WADDESS.

Castile Howard.—Apples and Pears are an average crop this year. Apricots, Plums, and Peaches have and still are bearing exceptionally heavy yields of fruit. Cherries are rather thin, and Damsons in some cases not too abundant. Strawberries, Raspberries, Gooseberries, and Red and White Currants have been very plentiful, but Black Currants dropped about two-thirds of their fruit at the beginning of June, owing to an attack of fly. At some places, where the plants were old and in feeble health, the whole crop was lost. All crops have suffered severely from want of moisture and from insect attacks.

Potatoes are free from disease; earlies a good crop, but rather small; later varieties look most promising. Cabbage and Cauliflower very poor, many deformed through the absence of rain and destroyed by caterpillars; in fact, all the Cabbage tribe are rather poor. All other vegetable crops are doing well.—J. RIDDELL.

Traaby Croft, Hull.—Although the season opened with every prospect of an abundant fruit crop, the realisation in most cases has fallen short of

expectation, the principal cause being the long continued dry and hot weather. Apples bloomed well but, failing to swell, the fruits have fallen off and are now nearly an average crop. Pears are only average, though a good crop is shown at my time very assured. Peaches have dropped well and have maintained the prospect, but Cherries have dropped quite a third or more of their fruits. Apricots, too, have maintained the promise, but the fruits will be small. Small fruits, such as Gooseberries, Currants and Raspberries, are an abundant crop, the dry weather, however, proving much too severe upon Strawberries, which showed well, but proved only a moderate and short-lived crop.

Vegetables of all kinds have suffered from drought. Peas fill slowly and are soon over. Veitch's Early Gem, Exonian, with William I. proved the best early varieties, whilst Telephone, Veitch's Perfection and Ne Plus Ultra will stand the test against all comers for affording midseason and late supplies. The dry weather does not appear to have suited the crop of Broad Beans, but dwarf Beans, although late, are doing very well. Early Potatoes are small and not plentiful. Later kinds look well, but are suffering from the want of moisture. Cauliflowers have proved a failure and Cabbages a poor crop, and unless we have rain soon the entire family of winter Brassicas are likely to suffer severely. Onions, where they have had good attention, are a fair crop, so are Beetroot, Parsnips, and Carrots, but Garlic and Shallots are not very good. Seakale is not likely to develop very strong crops through lack of moisture, and although Globe Artichokes are of great abundance, they are likely, owing to the drought, to be only short-lived. Atmospheric conditions are far from being favourable to the growth of Celery, and Rhubarb, unless a change takes place, is not likely to do much more good. Lettuces have required good attention, as unless frequent sowings and plantings have been carried out, the supplies of these would soon run short. Turnips have been difficult to deal with, the flies troubling them terribly when young and the hot, dry weather, running them up to flower in very quick time, necessitating frequent sowings of those varieties that are least likely to run.—J. P. LEADBETTER.

Preston Tower.—The fruit crops are heavy, with the exception of Peas, Apricots and Cherries, which are rather light, although I find a neighbouring gardener has good crops of Apricots, Currants, Plums, Gooseberries, Peaches on walls and Raspberries. Strawberries have also been good.

Vegetables are very good. I dug the first Potatoes on May 30, Sharpe's Victor being the variety. Potatoes on the whole are rather small, though of good quality. I planted some young Cauliflowers outside last year. They stood all winter, and I cut nice heads at the end of May. Spring Onions are looking best. Tripoli suffered somewhat from the drought. Peas have done well. William Hurst was the best early dwarf. Gradus well as an early, though not quite so early as William Hurst. I find the following varieties do well as mid-season Peas: Dr. McLean, Advanced, Duke of Albany and Huntman. Veitch's Perfection and Walker's Perpetual I find good late kinds.—W. RICHARDSON.

Allerton Priory, Liverpool.—Small fruits this season are good, but Apples, Pears and Plums are on the whole not moderate crops. The trees gave good promise in the way of flowers, but the dry, unfavourable season interfered with perfect fertilisation, consequently a larger quantity of fruit fell. Exceptions to this state of things in Apples are King of Pippins, Cox's Orange, Cellini, Lane's Prince Albert, Lord Suffield, Pott's Seedling and Alfriston. The best crops amongst the Pears are borne by Clapp's Favourite, Williams' Bon Chrétien, Louise Bonne of Jersey and Beurré d'Amanlis. Plums are thin, although Dymond, Pond's Seedling and a local variety named Halewood (a small red Plum) are fair. On the walls Bryanton Gage and Coo's Golden Drop are the best. Cherries made a beautiful show when

in bloom, but only two kinds came out well—viz., Bedford's Prothée and Governor Wood, which never fails me. Strawberries have been all I could desire, notably Royal Sovereign and Waterlily.

Latest of All does not flourish up well, thus spoiling its appearance when dished. All bush fruit and Raspberries bear very enormous crops of well developed fruit despite the dry weather. I never saw the trees so badly infested with red spider before, which is finding its way into the vineeries and other houses in large numbers. Gooseberries have been alive with caterpillars, which have been very troublesome to keep in check.

Vegetables have felt the drought very much, early Peas and the Brassicas tribe especially. Brussels Sprouts had a difficult matter to get a start, numbers dying off. Onions, too, have been severely attacked by the fly, and now, with the continued dry weather, crops for the winter need sharp attention.—J. J. CRAVEN.

SCOTLAND.

Galloway House, Garliestown.—The fruit crops in this district are very satisfactory as to quantity, and owing to the earliness of the season and the abundant rains at the end of June, which cleansed the foliage of the early autumn and winter varieties from insects, these promise to finish off much finer fruit than usual. Apples are very plentiful, and although great numbers have fallen prematurely from large standard trees, there are sufficient left to form heavy crops. Young trees from which the fruit was thinned to the desired number early in the season have large fruit, and are making clean, healthy growth. With the exception of a few varieties that were overcropped last year, all others are bearing well. Pears of the choicer varieties are good average crops; orchard standards of Hosse Crawford, Swan's Egg, Williams' Bon Chrétien, and Bergamots are mostly loaded with fruit. Plums are very good even crops, the better sorts grown against walls, as Jefferson, Kirke's, Lawson's Golden Gage, Cox's Golden Drop, Denniston's Superb, Orleans, Czar, Sultan, Monarch, Pond's Seedling, and some others set their fruit very thickly, and much thinning has been necessary. Victoria, Belle de Septembre, and other orchard varieties are abundant. Damsons were also very plentiful, but the trees were badly affected with aphis, which checked their growth for a time and caused some of the fruit to fall. Good growth has now been made and fair crops are anticipated. Peaches and Nectarines are about an average. Grosse Mignonne, Dymond, Crimson Galande, and Royal George are the best Peaches, and Lord Napier, Erlige, and Newton the best Nectarines. Figs are very good, and being early should ripen well. Castle Kennedy and Brown Turkey are the sorts grown. Apricots are above the average, the fruit larger and better coloured than usual. Moarpark, Large and Royal are grown, the last the surest cropper. Cherries, all dessert sorts were very good crops, the fruit large and well flavoured. Morellos are however scarce. Strawberries were abundant, and have seldom been finer either in size or quality. The best early sorts are Noble, King of the Garden, John Ruskin, and La Grosse Sucrée. Royal Sovereign promises to be a good early variety. Vicomtesse Héritier de Thury and President are the favourite main-crop varieties, with Elton Pine and Latest of All for late use. Raspberries and Currants of sorts were heavy crops. Gooseberries generally are average crops, but slightly below here owing to an attack of caterpillars last year which damaged the trees very much.—JAS. DAY.

Gordon Castle, N.B.—With the fine ripening weather of last autumn and an exceptionally fine open spring nearly all sorts of fruit are heavy. Apricots are over an average and swelling up to a fine size. Apples are also over an average crop, and promise at present to swell to a good size. Cherries are under average, except Morellos. Pears are also under walls, but an average crop

on standards. Plums are also very much over an average crop, especially Victoria, Mitchelson's, Czar, Ponds', Gisborne's and Early Prolific. Peaches are also a good average crop. Small fruits are a good average crop, especially Black Currants, but the wood pigeons the last two seasons have been very destructive.

All vegetable crops are looking very healthy and promise an abundant yield. All over the north of Scotland the cereal crops are in the same forward and healthy condition, and harvest will fully a fortnight earlier than usual.—C. WEBSTER.

The Glen, N.B.—The fruit crops in this district look remarkably well. Apples above the average and fine. Plums very heavy. Cherries the best we have had for years. Strawberries a very fine crop, but of short duration owing to the dry weather. Gooseberries and Currants of all kinds an enormous crop. Raspberries very fine.

Our earliest Pea here is Dickson's First and Best. A grand early Marrow is Veitch's Earliest Marrow. Another little dwarf one and a good-flavoured Pea is Chelsea Gem. I do not find any of the new varieties for main crop equal Veitch's Perfection and other older sorts.—M. MCINTYRE.

Tynningham, East Lothian.—The fruit crops have over all been a good average, and are characterised by good quality and early ripening. Currants and Gooseberries have been practically failures, probably brought about by the intense heat and drought in May. Strawberries were good, but soon over, so were Raspberries and Blackberries, and Japanese Wineberries both look well and are bearing freely. Morello Cherries are a fair crop. Pears are below average. Apples above average and of extra good quality. Plums are very fine and early, the season beginning with Rivers' Early Prolific on July 13, The Czar coming in a week later. Figs are a heavy crop and the first ready on July 20. I had one or two Peaches July 17, but they were from a young tree, and perhaps the ripening was more a result of drought than of maturity. Lord Napier Narcine was ready on the 30th of July. Apricots set a very large crop, and gathering commenced July 20. All these dates are abnormally early, and perhaps indicate that a mild winter followed by a spring of the same nature is a thing not at all undesirable.

Potatoes were wonderfully good, and the same may be said of most vegetables, though the devastation by grub, Brassicas and Carrots was deplorable.—R. P. BROTHERSTON.

Dunkeld, N.B.—Apples are very fine, a splendid crop of first size. Pears are also very good, large crops and of first size. Plums also a splendid crop. I have seen them on walls to the very place I wish fruit to be, and the beauty of it is I can say the same about every variety. Peaches are the finest lot I have had for twenty years. I gathered Alexander in the second week in July in grand condition. All the Peaches are very satisfactory. Apricots, in size, quality and quantity, are all that can be desired. Cherries heavy crops. Small fruit plentiful, but not of usual size.—P. W. FAIRGRIEVE.

Dunecth, Aberdeen.—This season has from early spring up to the present been an exceptionally fine one. Fruit trees and bushes of every description presented one mass of blossom, and in the absence of frost there was a splendid set. The rainfall being over the average, fruit of every description swelled rapidly, and was quite three weeks earlier than last season. Apples average. Plums and Cherries over average. Raspberries and small fruits extra heavy.

The vegetable crops have generally done well. Potatoes are looking healthy. Early varieties are a good crop and of excellent quality. Peas, Cabbage, and Cauliflower have done remarkably well, and there has been little trouble with the maggot so destructive to Onion and Carrot crops last season. Having to supply a large demand for Peas, I do not go in much for novelties. I find for early use Earliest of All suits me well. Laxton's Alpha and Fillbasket do well for midseason

work, with Telephone, Ne Plus Ultra, Duke of Albany, and Beck's Prizetaker for later use.—FRANCIS DUNCAN.

Glenormiston, Innerleithen.—Fruit crops here and in the neighbourhood are generally good and early, about a fortnight, on the whole, I should say. Some have suffered somewhat from want of rain. Such as Black Currants have dropped off badly in some places. We suffer very little in that way here. The soil of Glenormiston is much heavier than the staple soil of Peeblesshire. Some Plums, such as Jefferson, have suffered from want of moisture at the root about the time the fruit set. When fruited in pots alongside other sorts it usually requires more water than the others. Strawberries and Gooseberries, also Red and White Currants, are heavy crops, but mildew has been appearing towards the close of the season on Strawberries. Apples are good also and well coloured.

The vegetable crops are all good, as a rule, with the exception of some that have been attacked by insects. The worst has been tomatoe-some of Carrots also maggots the Cabbages tribe that was planted out during April. All these crops planted later on have done well. Some people complain of maggot on the Onion crop. I have none of this, as I have given up sowing in the open, not so much on account of the maggot as owing to the more profitable way of raising a few boxes inside and planting them out. Potatoes are good and early. On the whole, fruit and vegetables are very good for Peeblesshire considering the amount of dry weather we have had. Crop generally have stood the drought better than they have done for eighteen years, not a dried up field of grass to be seen. As to the Peas, I cannot say very much on that subject, as I am not in the way of testing new sorts. I generally hold to sorts that suit the soil, now and then making a change when I see a good one. Exonian I think the earliest I have tried. Sharpe's Queen is without a doubt the best second early I have ever had, all things considered. If I were bound to grow one sort, without hesitation Sharpe's Queen would be the one. I place G. F. Wilson as a good late. For some years past I have ceased growing the taller sorts, although some of them are very fine, but grow for top rank on our heavy soil. The middle heights give the best return, all things considered. Alderman I think a good Pea. I tried it last year.—A. DICKSON.

Haddo House, Aberdeen.—The fruit crops in this neighbourhood are generally good. Strawberries in most cases are rather poor. Gooseberries, Raspberries and Black and Red Currants are extra good. Apples are very irregular; some a heavy crop, others almost none. They all had a great abundance of blossom, but during the hot, dry weather in May they got overrun with insects and great quantities of the fruit dropped off. Pears are rather a poor crop, but, as a rule, they do not bear well in this part of the country. Plums (which are all on walls) are an extra crop, and have all had to be thinned; the trees are unusually free of insects. Cherries are a light crop except Morellos, which are good. Peaches and Apricots are not grown out of doors.

Vegetable crops have done well and are generally good, except spring-sown Onions, which are very much injured by maggot; autumn-sown are good. Early-planted Potatoes did not come up well, but what came was a good crop and of good quality. Later sorts have done well, and as yet there is no appearance of disease. Peas have done well, but owing to the dull, damp, showery weather we have had lately they are not filling very well. Cabbage, Cauliflower and other Brassicae crops are all good, fair crops. The following Peas do very well here: Early sorts, Laxton's Alpha and William. In general crocus, Princess Royal, Stargazer, The Duchess, Duke of Albany, Telephone, Maclean's Best of All, Dr. Maclean, Maclean's Premier and Veitch's Perfection.—JONN FORREST.

Cullen House Gardens, Barff.—The fruit crops in this neighbourhood are a fair average, as

a rule. The mild winter and fine spring gave us an abundant show of blossom, but in some cases the fruit did not set so well, especially Pears and Strawberries, and in some cases Apples dropped a good deal. Other small fruits are abundant. Peaches outside are thin, but extra early. I had Early Alexander Peach ripe on the open wall the first days of July. Figs outside are a grand crop and swelling well.

Potatoes on the whole look very promising and are comparatively free from disease. Sharpe's Victor still holds its own as the earliest. Autocrat and Satisfaction are both good new Peas, but old favourites are Ne Plus Ultra, Veitch's Perfection and Criterion; the last the finest Pea I know.—J. FRASER SMITH.

Balcarras, Colinsburgh, Fife.—The fruit crops in this district are above the average and three weeks earlier. Apples are a heavy crop, trees clean and free from red spider. Pears half a crop. Plums average. Apricots and Peaches above average. Cherries very heavy. All bush fruits above average and very good in quality. Strawberries very good where two and three years planted, but older plantations in some places an entire failure. Late varieties, Elton and Aberdeene Favourite, very good.

Last year I tested out early varieties of Peas and found Exonian the earliest; of midseason varieties I find Senator, Duke of Albany, Telephone, Telegraph, and Autocrat the best, the last a grand cropper and not too tall. I have not found a better or more prolific variety than Ne Plus Ultra.—E. TIANE.

Drumlanrig.—The fruit crops here, with the exception of Apples, never were better. All small fruits, Cherries and Plums are good and quite fourteen days earlier than the average of seasons.

Vegetable crops have done well and are doing remarkably well. As to Peas, which you specially ask about, we do not require early Peas, so do not grow any of the very earliest. Gradius and Duke of York are very fine second earlies. Boston Unrivalled is a marvellous cropper as a midseason variety. Duchess and Duke of Albany are always very fine. For late crops Ne Plus Ultra holds its own. Peas vary much in different localities. Veitch's Perfection, now superseded, was very fine in East Lothian, but here it was worthless.—D. THOMSON.

Taymouth, Broughty Ferry.—The fruit crops in this district are this season most satisfactory. Small fruits have been abundant and good. Strawberries and Raspberries have not been so plentiful for some years, notwithstanding the long spell of dry weather. The copious rains we had throughout June, with fine genial weather, have caused all sorts of fruits to swell splendidly. Apples and Pears in general are heavy, and in many cases require thinning.

The vegetable crops are also looking well. Early Potatoes are good and no sign whatever of disease. Sharpe's Victor is our best early; it comes in early, and the quality is invariably good; I only wish it were a heavier cropper. Peas have been excellent. William the First I grow for our earliest. Although an old variety, it is hard to beat. Gradius, a new variety, I have grown this year, promising to be one of the best early Peas in cultivation; it is of medium height, with upright pods well filled with Peas of the real Ne Plus Ultra flavour. Sown at the same time as William the First, with me it came in eight or ten days later. Duke of Albany and Telephone I grow as midseason varieties with Ne Plus Ultra and Walker's Perpetual Bearer for late crops. The height of the former variety is against it, more especially in exposed situations. Walker's Perpetual Bearer is much dwarfer, and with me it is what its name implies.—ANDREW SMITH.

Moy Hall, Inverness.—Apples are good on potash, but indifferent on standards. Pears and Plums never fruit satisfactorily in this district. Cherries a very heavy crop. Gooseberries, Currants, Raspberries, and Strawberries are very abundant. The mild spring, succeeded by copious

rain, swelled the fruit to quite an unusual size, and it was fully three weeks earlier than last year. Potatoes are a heavy crop and of good quality, with no signs of disease. Carrots and Onions are exceptionally healthy and free from disease. Peas are good, but growing rather tall; the heavy rainfall of June accounts for this. The best early variety I find is Carter's Lightning, succeeded by Sangster's No. 1. For mid-season, Exonian is an excellent kind, with well-filled pods. For late use, I find no Pea equal to Ne Plus Ultra.—D. IRISH.

Belmont Castle, Meigle.—The fruit crops in this district are very good this season, except Pears, Peaches, Apricots, and Plums on walls are good. Apples on standards a full crop. All small fruits, such as Currants and Gooseberries, a fine crop. Gooseberries the best crop I have ever seen. Strawberries were good, but soon over owing to the heat we had.

All sorts of vegetables have done well, but on some soils all the late-planted Cauliflowers and Brussels Sprouts are bad with greenish mould and going off. The varieties of Peas I grow here are Dickson's Earliest of All, Dickson's Favourite Laxton's Supreme, Dr. McLean, Duke of Albany, Sharp's Invincible, and the Duchess. I find these come in in the order I have put them down in, and give a very good supply.—G. DINGWALL.

Bowhill, Selkirk.—All small fruits are a very heavy crop and of good quality. Apples are an average crop in the garden, but in the neighbourhood there is a very heavy crop. Pears a very poor crop. Plums a very heavy crop and of good quality. Morello Cherries a splendid crop and of fine quality.

Potatoes in the garden and neighbourhood are a very fine crop and no signs of any disease. All vegetable crops are very good, except Carrots. I consider Chelsea Gem and Exonian the best Peas for early crop ; and for mid-season, The Duchess, Telegraph, Autocrat, Duke of Albany, and Duke of York, with Veitch's Perfection, and Walker's Perpetual Bearer for late crops.—JOHN C. SMITH.

Fyvie Castle.—Wall fruit, such as Apricots, Apples, Cherries, Plums and Pears, are this year above the average and very promising. Black and Red Currants, Gooseberries and Strawberries are also a splendid crop.

Peas and Potatoes are fully a month earlier than usual. William I. I find is the earliest and yields by far the best crop of the early sorts, and for main crop, Duke of Albany, Telephone, Telegraph and Webb's Senator are worth growing. My best early Potatoes are Duke of York and Sharp's Victor. This year has been very mild, and flowering shrubs of all sorts have been very fine. We had very little rain during April and May.—S. CAMPBELL.

Ferguslie Gardens, Paisley.—The fruit crops in and around Paisley have been very satisfactory this year. The Gooseberries in the gardens here are a splendid crop and have been so for a number of years. They get a good top-dressing of manure every two or three years, which helps to keep them going, and we have been very fortunate in escaping the late spring frosts. The Apples are looking very well, some better than others ; but on the whole I consider we have a fair crop. Raspberries are a first-rate crop and the fruit of good size. These are also mulched in the winter-time and the manure slightly forked in during spring, as I do not consider it good practice to dig much among Raspberries. Black Currants have always been a success here. At present there is a good crop, but I see beginning amongst them the dreadful disease. Strawberries have been poor. Garibaldi and President are the best for the district.

I have not tried any of the new Peas this year. The first I had was Earliest of All, sown on February 17 ; first dish gathered on June 12. Dickson's First and Best was next, and came in a few days later. Veitch's Earliest Marrow is a splendid Pea. Duchess Dr. Maclean, Maclean's Premier and Maclean's Best of All are all favourites. Veitch's Perfection and Duke of Albany

are doing well. The lines are all specially pruned, a trench taken out and filled in with a good layer of manure and then covered up, and the Peas are sown along the top. In dry weather the manure retains the moisture, and the Peas receive all the benefit by getting the manure all to themselves. Cabbage is doing well. Little Pixie is our earliest, and then Early York. Cauliflower is good now, but a lot went off with the maggot. Walcheren, Eclipse, Knight's Protecting and Autumn Giant are the varieties mostly grown here. Turnips are fine now, but troubled with the fly earlier. American Red Stone is the principal Onion. Onions are difficult to grow here.—D. McDONALD.

Oxford Castle, Dalkeith.—I may say the season is a good average one, taking it all round. Strawberries are much below the average in this garden and neighbourhood. The ground was too dry through the flowering period, consequently they did not set. Gooseberries are an abundant crop. The same can be said of Raspberries. Black and Red Currants are a little nearer the average. Cherries have been a poor crop ; too much caterpillar early in the season. Plums are a heavy crop, especially the common sorts, such as Victoria, Goldsmith, Kirk's Seedling, and Jefferson. Peas are the best crop in this garden I have seen for some years. Apricots are an excellent crop and very healthy all through. Apples are to be a better crop in this garden than has been the case for some years. No Peaches grown outside.

Vegetable crops look well on the whole. Onions are an excellent crop, healthy and early. Peas have suffered a little from being too dry. Grapes I have found a capital big-podded, early Peas, quite as early as the early sorts such as Dickson's First and Best and others usually grown as early. Duke of York grown beside it is a week later, but a good Pea. I only grow Duke of Albany, Stratagem and Dr. Maclean Peas for succession ; these are three I find reliable when true to name. Cauliflower is doing well now, but it was a little too dry for the early crop, and many of the plants went off with the maggot. Cabbages have done splendidly from early spring sowings.—W. SMITH.

Marchmount Gardens, Dumfries.—Small fruit plentiful except Strawberries, which are poor. Apples and Pears a fair crop. Some kinds of Plums a heavy crop, especially Victoria and Jefferson. On the whole it is the best fruit year since 1887.—ROBERT BRYDEN.

Glamis Castle, Glamis, N.B.—The fruit crop this year is an abundant one in this district, with the exception perhaps of Strawberries on thin and light soils. All other small fruits are plentiful and of fine quality. Apples, Plums, Peaches and Apricots are exceptionally good. Pears may be called a thin crop. The season is early and the different fruits are ripening well in their turn. Wall trees were somewhat infested with aphids during the protracted drought, but lately they have been much benefited by copious rains.

Vegetables are also looking well. Quantities of early Cabbages and Cauliflowers bolted, but later batches are doing well. Early Potatoes are a good crop and of fine quality. Late varieties are making rapid progress and give promise of a heavy crop, and no disease has as yet been noticed. I have found the following Peas the best, viz., first early, Chelsea Gem, Exonian and Dickson's First and Best ; midseason, Laxton's Fillbasket, Duke of Albany and The Duchess ; late crop, Ne Plus Ultra, Autocrat and Veitch's Perfection.—T. WILSON.

Aberciney, Crieff.—Owing to the heavy crop of all sorts of fruit last season here and in this neighbourhood, a good crop this year was scarcely expected. The autumn, however, being extremely favourable for maturing fruit trees and bushes and the spring free from damaging frosts, we are now getting a good crop of fruit. Strawberries and all other fruits are good in crop and quality. These suffered in the early part of the season from want of sufficient moisture. Apples have dropped considerably, but are a good crop, especially those varieties not over-burdened last

season. They will be fine in colour. Pears are somewhat thin. Cherries on walls are heavily laden ; so are Apricots and Peaches. Plums on walls and standards are a full crop. Not in experience has so much hand-thinning been required.

Vegetables were all very early, and since the rain are growing luxuriantly, and there is no appearance of Potato disease. Exonian Pea sown here out-of-doors last week of February was ready to gather June 1—a fine crop, followed a week later by William I. Chelsea Gem has also done well. The varieties of Peas generally grown here are Dr. McLean, Duke of Albany, Fortyfold, Laxton's Supreme, Ne Plus Ultra, and Veitch's Perfection.—JAMES BROWN.

Cawdor Castle.—There is a good average crop of fruit, especially Gooseberries, Raspberries and Victoria Plums. The only exceptions are Pears and Cherries, which are lightly cropped. Apples are a good average, especially Blenheim. Old trees which had not borne for years are loaded.

Vegetables are very luxuriant owing to the amount of rain we had. Potatoes are a good crop. I grow for early use William I. ; for main crop, Telephone, Duke of Albany and Ne Plus Ultra. I have tried some of the new sorts, and found them inferior to the above.—JAMES MATTLAND.

GARDEN FLORA.

PLATE 1083.

GRIFFINIA.

(WITH A COLOURED PLATE OF *G. BLUMENAVIA*.*)
THE genus *Griffinia* was created by Ker, and it contains about half-a-dozen species, all of which have been in cultivation at some time or other. Herbert appears to have known three



Griffinia Blumenavia.

of them over fifty years ago. Mr. Baker, in his excellent handbook of Amaryllidaceae, describes seven species. They are all natives of Brazil, and they are nearly allied to Cyrtanthus, Gastronema and *Lycoris*. They are distinguished botanically by their wide, stalked, reticulated leaves, their many-flowered umbels and free flower-segments, the three upper of which are broader than the three lower. The structure of the flowers suggests the possibility of a cross between them and *Nerine* rather than with the Hippeastrums, as some appear to think.

* DRAWN FOR THE GARDEN by H. G. Moon from flowers sent by Mr. Baldwin, Hasseocks. Lithographed and printed by J. L. Goffart, successor to Guillaume Severyens.

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PFEIFFERIA ELATIORIANA

CULTURE.

Griffiniæs are called stove plants. They do not always thrive under cultivation, but where they do they are strikingly ornamental. Herbert states that in Brazil they are buried 8 inches deep in strong loam, the scape and leaves rising to the height of 2 feet, whereas in our stoves they rot when potted in strong soil. He recommends light peat and sand for them. But they thrive when planted in fibrous loam three parts, leaf-mould one part, and a good sprinkling of silver sand. The bulbs should be partly buried and the pots carefully drained. During winter the plants rest and require no water. They should be placed on a dry shelf in a warm or intermediate house and kept there until about March, when growth recommences and the flower-spikes push up. The plants ought to be at their best in May, though they do not appear to flower at any definite time under cultivation. They may be made to flower in winter by forcing, but the probable result of this is the sickening of the bulbs. The leaves are deciduous, new ones being developed along with the flower-spikes, as in the Hippocratestrum. The plants require moderate supplies of moisture, both at the root and overhead, and a light position. They do not ripen seeds under cultivation, but may be propagated by means of offsets from the bulbs.

G. HYACINTHINA.—Bulb round, 2 inches, 3 inches in diameter, with a short neck; leaves 6 inches, 9 inches long, about one-third as broad, with a channelled stalk and an acute apex. Flower spike from 1 foot to 2 feet high, slightly flattened, and bearing an umbel of from six to ten flowers, which last about a week.

G. BLUMENAEVIA, of which a coloured plate is given, has bulbs similar to those of *G. hyacinthina*, but leaves only half as long. The flower-spike is less than a foot in length and is usually eight-flowered, the flowers being 2 inches long and pale lilac, sometimes almost white. This plant was introduced by Dr. Blumenau in 1876 from Santa Catharina. It sometimes flowers in April, or even earlier.

G. ORNATA has large bulbs each 4 inches in diameter, with a thick upright neck 4 inches long. The leaves are arching, 9 inches long, and the erect flower-spike is about 18 inches long. The umbel sometimes contains as many as twenty-four flowers, forming a head 8 inches through; each flower is about 3 inches long, and coloured a delicate purplish lilac, fading off to nearly white.

G. DRYADES is distinguished by its firm leathery leaves, which are each a foot long, about half as broad, and bright green. The scape is 2 feet high and bears a head of about ten flowers, each of which is 4 inches long and coloured purplish lilac.

W. W.

Heliotropes.—The sweet perfume of these plants is, perhaps, more marked in the garden when they are grown than when the flowers are cut. I observed recently that at Strathfieldsey the strong-growing and highly-scented Florence Nightingale is greatly valued and liked. At Maiden Erlegh Mr. Turton uses only the dwarf Etoile de Marseilles. This does not exceed 10 inches in height and produces bloom in great abundance, of a hue that is more nearly blue than I have yet seen on the Heliotrope. The tall growing Florence Nightingale makes a fine base for standard white Fuchsias or tall golden Abutilons and similar top plants. The dwarfer form is ad-

mirably suited for edgings and carpets for Ivy-leaved Pelargoniums, dwarf or bush Fuchsias, and those who have not Etoile de Marseilles should secure it, as it is certain to be a valuable addition to the flower garden.—A. D.

THE WEEK'S WORK.

HARDY FRUITS.

ORCHARD FRUITS.—The gathering and storing of some varieties of Apples and Pears will now be occupying the attention of most gardeners, and as this is an operation requiring as much care as the growing of them, great care should be exercised on many of the best specimens will be spoiled either from being gathered too soon or from carelessness in handling. Some people are apt to think that because fruit is hard at the time of gathering, it will stand knocking about. Such,

*Griffonia hyacinthina maxima.*

however, is a great mistake, for the more gently gathering is done the better chances there are of its keeping. Then again, many varieties of Apples are gathered before they are ready and are stored in places most unsuited for them. A dry, airy loft is by no means the best place to store them in, but how often do we find that such is the only accommodation provided. There is also frequently much valuable space wasted, for we do not see Apples and Pears of all sizes headed together as if they were so many Turnips, a good portion of them being of no value whatever except for grinding down for cider. Apples as a rule are not a heavy crop this season, though in some places there is a fair quantity, and where this is so, special care should be taken to preserve them as long as possible. It is the rule rather than otherwise to gather late Apples too soon—in fact, all kinds ought to be allowed to remain on the tree as long as possible, for with the shortening of days the temperature becomes cooler; therefore, the fruit does not ripen so fast. Most people know that towards the end of this month and early in the next we are subject to gales which often spoil many, either by bruising them against each other or bringing them to the ground, but where orchards are sheltered—and all fruit plantations

should be—no great quantity of the long-keeping varieties will suffer, and what are left will more than compensate for the loss of those injured by the wind. It is recommended by some to empty the fruit out of the baskets in which it has been gathered and grade it before storing, but in my opinion too much handling should be avoided. Where the trees were duly thinned as previously advised, there will be but few worthless ones to remove. Where this has been neglected the sorting should be done not by emptying it out by hand and putting the finest specimens thinly on the fruit-room shelves, where they may be frequently looked over, the others being disposed of at once. In this way much valuable space will be economised, and those stored will in all probability keep much longer. The baskets used should be shallow, and ought to be lined with some soft material to prevent the twigs from bruising the fruit. We too often see Apples emptied into hampers, where they remain for several days pressing against each other, causing a bruise which in time ends in decay; thus many of the best specimens are spoilt. Fruit for keeping ought to be handled as carefully as though it were intended for exhibition. If the store room has been made ready, as previously advised, by whitewashing the walls where they require it, the fruit should be taken straight to it in the baskets used for gathering; this will do away with the necessity of too much handling. Early varieties are apt to sweat when taken to the fruit room; ventilation should therefore be provided near the apex to carry off the moisture. The room, however, should be kept as cool as possible in the daytime by having the windows open, and with the curtains drawn there are such as are still exposed to the sun. Pears in most private gardens are not grown in such quantities as Apples, for, as a rule, a few trees of each variety are sufficient to supply the requirements of the place; and as there are but few that keep in good condition when ripe, only a portion of the fruit should be gathered at a time. With pyramids, espaliers, cordons and trees on walls this is no difficult task, but with large standards in orchards it would be much more serious. As a rule, if a fruit be lifted to the horizontal it will part from the tree if ready to gather, but if any pulling is needed to cause it to separate, better leave it a little longer. By so doing, the season of ripening will be considerably prolonged. Brockworth Park with me is very fine this season, particularly fruit grown against a wall with an eastern aspect, being a long way ahead of Williams' Bon Chrétien in point of flavour. To prolong the season of Marie Louise, a tree or two should be grown on a north wall, allowing the fruit to hang as long as possible. Doyenné du Comice when grown on an eastern aspect should also be allowed to hang as long as possible. White Doyenné with me is always good when allowed to hang till it parts freely from the tree; the same may be said of Seckle, but when these are gathered too soon they lose much of that briskness of flavour so desirable.

PLUMS.—In damp situations the fruit of these does not hang well on the trees. It is not altogether the rain, but the close, moist atmosphere that causes the fruit to split before being well ripe. In some places Damsons will hang till November; whereas in others the splits before being ripe. In low situations where the fruit suffers from this calamity it is always well to grow on a north wall such as Late Plums as Blue Impératrice, Coe's Golden Drop, Monarch, Grand Duke, Coe's Late Red, Imperial de Milan, and Nouveau de Dorelle. With me Late Rivers does not ripen in the open, but against a wall it is a grand variety. On bushes it splits long before being ripe. Where Plums are required to hang for some time, boards placed under the coping will help to ward off the wet. Nets should also be hung in front of the trees to protect the fruit from birds.

STRAWBERRIES.—Pay special attention to the early batch in pots, for as the soil becomes filled with roots the plants will need assisting with

manure water to plump up the crowns. Pinch all runners off as they appear, and should there be any signs of the foliage overcrowding the plants, it ought to be thinned out so as to allow the air to circulate more freely amongst them. Late batches should by this be getting well rooted, and will therefore need stimulants to help them along. In some places the frequent showers are almost sufficient to keep the soil in the pots moist, but as yet it would seem they are very partial, for in one place a good quantity may have fallen while only a short distance away the ground is still very dry. Particular care must therefore be exercised in watering, for though the soil may appear moist on the surface it will be dry underneath. See that the pots are kept free from weeds which allowed to remain would rob the plants of their nourishment. Newly-planted beds should also be looked after, as it is important that all runners should be pinched off as they appear. The hoe ought to be freely used in fine weather to keep down small weeds, which at this time of the year are very troublesome, particularly where it has been showery. Any planting that has still to be done ought to be brought to a close without delay, for unless the plants are well rooted before frost sets in, they will be sure to suffer should the winter be severe. Remove all runners from older plantations and keep them free from weeds by timely hoeing.

H. C. PRINSEPP.

KITCHEN GARDEN.

CABBAGE.—The Cabbage ground having been prepared as advised in the earlier calendar note, it will now be advisable to plant a portion of it with the forewardest plants in the seed-bed, such plants being carefully drawn out so as to leave the remainder as little disturbed at the root as may be; the latter will then profit by the increase of room they get, and make good plants for putting out a week or two hence. I prefer not to plant a large bed at once, as it sometimes happens that all plantings do not do alike well, even if drawn from the same seed-bed and planted side by side. Look the plants carefully over as they are drawn out and discard any that are defective in any way, especially those which show the least signs of blindness, as such will never make good heads. If clubbing is at all prevalent in the garden it will be advisable to puddle the roots in a mixture which I have before recommended—viz., equal proportions of clay, soot and lime, mixed to such a consistency that it will not readily drop away from the roots. It is a good plan to take a portion of this mixture in a pall to the seed-bed, and put the roots in it as the plants are drawn, letting them remain so until brought to the planting ground, taking each plant direct from the puddle as wanted for planting, for the larger the quantity of mixture that clings to the roots, the greater will be its effects as a remedy against clubbing; and by this means, and by that of the gypsum I have recommended for digging into the ground, a thoroughly healthy growth should be promoted. I advise deep planting on light soils and that the soil shall be well cased in around each plant, firmness on such soils being a great help to growth and hardiness of the plants. Much room is frequently wasted on the Cabbage ground in private gardens, for there is no necessity to give such small-growing Cabbages as Ellam's and the others which I recommend for early sowing anything like so great a distance from plant to plant, as one frequently sees given to them. Fifteen inches from plant to plant in rows 18 inches apart is ample room in which to grow Cabbages big enough for table use, and where room is at all scarce I would not hesitate to put the rows closer even than this; but I recommend such a distance, as it gives a good chance of bringing plenty of soil up to the stems when these are being moulded up—a precaution which is necessary in all gardens liable to very severe frosts. Where slugs are abundant, means must be taken to prevent them from worrying the plants, but they will not be likely to do much damage on ground already prepared as I suggested, gas-

line being distasteful to them. Other enemies such as game of various kinds and pigeons, have to be guarded against, and for this purpose I find nothing better than enclosing the plot with a width of galvanized netting fastened to stakes. This should be seen to directly planting is completed for the time, as it will then prevent both pheasants and partridges making a raid on the crop, for these latter do not readily fly over even such a slight obstacle unless they have had a previous taste of the plants. No matter how many varieties of Cabbages may be tried, Ellam's Early should have pride of place, it being so useful and such a good doer. Most of my Cabbage ground was devoted last year to this variety, and from same plants planted at the distances given above I have been cutting constantly throughout the summer nice hearts, the second crop being but little inferior in size and equal in quality to the first, and there is still plenty in all stages up to the completely formed heart.

FRENCH BEANS.—It is well to make a further sowing of French Beans in pots about this time, and it will be no longer necessary to have such plants in a cold structure, for they will from the first to grow them where they may have the advantage of a little heat; nor is much harm may be safely given when forcing in spring, but enough to accustomise the plants, as it were, to the still more artificial conditions they will need when flowering and fruiting. The crop is a precarious one during the dull days of early winter, and the plants will need all the assistance they can get from light surroundings and sweetness of soil, no crowding must be allowed, as this would lead to attenuated growth and a failure in setting the pods. Very little manure should be used in the soil at this time of the year, about one-sixth part of decayed horse manure will be sufficient to use with the fibrous loam which forms the staple of the mixture. Should the loam have a tendency towards sourness, as some soils have, a little finely-broken lime rubble added will counteract this. The earlier batch of pot plants which I recommended to be sown should from this time be gradually inured to having less exposure, as many failures are, I believe, due to the too sudden change enforced on them on the appearance of frosty weather, such changes arresting root action for a few days or long enough to do irretrievable damage, which would not occur under more careful management. Having now had sufficient rain for present needs, but little further can be done to assist French Beans in growing outdoors, except to afford protection to their plants in case of frost. Late-sown plants are commencing to pod and have made excellent growth, so that the crop will probably be good if the weather is kind. The more I see of the climbing French Bean the better I like it, as there seems no limit to its cropping powers, and the Beans if picked before they get large are of excellent quality and colour. In sowing the second batch of this Bean I chose a spot on the west side of a thick Beech hedge, sowing parallel to and about 4 feet from the hedge, towards which the stakes used were inclined at the top; protection in this position will be easy, a few poles sloped to the hedge and mats stretched along these being all that will be needed.

CARDOONS.—Where these are required early it will be necessary now to commence blanching. Growth has been rapid of late and the hearts are well advanced. Carrots are gluttons for water, and if this is not supplied in sufficient quantities the quality will be poor. It does not pay to depend entirely on the rainfall even if this is plentiful enough for most things, and I always like to give the plants a thorough good soaking just before earthing them up. The method I practise for blanching is that usually recommended, viz., to wind hay-bands round the plants, so that the stems are completely hidden up to the height at which they are to be covered with soil, which is then banked up round the plants in a similar way, but in larger quantities than for earthing Celery. It is not advisable to bind the plants very tightly or to cover them with soil above the point where the hearts cease to feel solid when tested by the

hand, as the non-observance of this precaution would tend to cripple the further progress of the most important parts of the plant. If hay-bands are not to be had, some other covering for the stems may be substituted, strips of Russian mats in too bad a condition to be used for their more legitimate purposes, or stout pieces of paper may be tied round and will answer equally well as the hay-bands. Only a sufficient number of plants for the earliest use should be taken in hand just yet, as Cardoons, like Celery, are improved by being left as long as possible uncovered. Many people blanch the hearts of any spare Globe Artichoke plants that they may have, as a substitute for Cardoons grown from seed, but I cannot say that I like the makeshift, as the growth from old Artichoke stools is never so fine as that of well-grown seedling plants. It however, if intended for the market, further thinning of the stools should take place, so that all the energies of each stool are concentrated on the production of one or two strong growths, these to be treated later to the methods of blanching described above.

SUNDRIES.—Frame Carrots should have small weeds plucked from among them and be thinned to about 2 inches apart if not more, roots not required. This will be a sufficient distance for the plants if weeds are rigorously kept down to give them all the room. Sweet Basil cut back, as I advised, will now have formed bushy little plants which may be potted up and stood under cover of a cold frame, where they will soon establish themselves ready for removal to warmer quarters later on as a supply of green shoots is needed. Angelica is not now very much grown, but it is useful in many ways, and should not be allowed to go out of cultivation. Being a biennial it should be sown now in good soil where it will make strong stems. Onions though they ceased growing early have had a bad time for finishing the ripening process and all not yet stored should be removed under cover, where they will be free from rain and dew, and should get an occasional stirring over until the skins feel crisp and dry, when they may be heaped up in a dry shed until a wet day occurs and time can be spared for stringing or bunching.

J. C. TALLACK.

KITCHEN GARDEN.

OPEN-AIR TOMATOES.

THESE are every prospect of the present season being one of the best on record for open-air Tomatoes. Not only have those plants receiving the benefit of shelter and warmth afforded by walls and fences produced both exceptionally heavy and early maturing crops, but those grown quite in the open are in an equally satisfactory condition. All that is wanted is another month of comparatively warm, dry weather to complete the ripening of the bulk of the fruit, and we shall then be able to speak of results unsurpassed even in America. Compared with what is going on among market growers, the efforts of private gardeners are most insignificant, and it is to the doings of one among the many growers for sale that I propose to confine my remarks at the present time. In the neighbourhood of Bexley Heath there is much to be seen and learned by all classes of gardeners, and I only regret not having arranged to spend much more time among the practical and genial market growers to be found there. Most of them cultivate Tomatoes under glass, in some instances extensively, but, so far as I could learn, it is reserved to Mr. R. Gulzow to grow them in the open in extra large quantities. In company with this gentleman I visited his Melbourne Nurseries and inspected the Tomatoes. There are fully four acres of ground devoted to them, and it is estimated that no less than eighty tons of fruit will be marketed

from these plants. This at about 2d. per lb. clear, that is to say after the expenses of marketing have been deducted, leaves a very respectable balance on the right side, or, say, something near to £1500, and stamps Tomato growing in the open as the most profitable open-air crop known. At least it would be so if the crops were equally satisfactory every season. Most growers regard open-air Tomato culture as a lottery, in which there are far more blanks than prizes, but Mr. Gulzow seems well content to risk it. He has a site sheltered from cold winds, and a soil which, though free-working, retains moisture surprisingly well. It is full of large pebbles, and these on the surface are effective conservers of moisture without keeping the ground unduly cold. In my case open-air plants had to be watered several times to keep them alive, but if I remember rightly, at the Melbourne Nurseries they have only watered twice this season, yet the rainfall was exceptionally light and the heat great. Planting 4 acres with Tomatoes is no light undertaking. Either digging or ploughing in a dressing of solid manure is a trifling detail compared with the raising of some 58,000 plants, for that is about the number, if my calculations are correct, required to plant 4 acres of ground, 15 inches asunder in rows 30 inches apart. The seed is sown at the end of March, the plants are duly placed singly in 24-in. pots, and are hardened off in time to plant out by the middle of May. A moderately strong stake is placed to each plant. The plants are confined to a single stem, are kept closely denuded of side shoots, and stopped beyond the third cluster of fruit. When I saw them late in August the plants had been partially cleared of old leaves, or sufficiently so to expose the great clusters of fruit hanging on them to all the sunshine possible.

Only those who have had some experience of growing Tomatoes on a large scale have any conception of the amount of labour necessarily expended on 4 acres of plants, but it is possible to largely utilise women and boys for this work, and expenses are kept down accordingly. It is not a farmer's crop, for the simple reason that a considerable area of heated, glazed structures is needed, first to prepare the plants under, and later on to utilise for the ripening of the crops. At times the fruit ripens very slowly in the open air, and Mr. Gulzow adopts the plan of gathering directly colouring commences, finishing the ripening under glass. There are tons of Tomatoes thus treated to be seen at one time in the houses, and it is only by assisting Nature in this way that the crop can be made to pay. No doubt quite the latest fruits are gathered when comparatively green, and sold after being kept under glass long enough to become red.

One of the great drawbacks to the open-air culture of Tomatoes is the liability of the fruits to crack badly, thus rendering them of little or no value for marketing. Mr. Gulzow depends upon a variety that does not crack. It bears a resemblance to the old Keyes' Prolific, and very probably was selected from that heavy cropping variety. The fruit (produced in great clusters) is of medium size, slightly ribbed, and bright red when ripe. None that I saw of this variety had cracked, and a few rows of smooth round sorts on trial only served to bring out the value of the selection, as these were cracking badly. So far as I could learn, disease is not often troublesome at the Melbourne Nurseries, and it would therefore appear that Mr. Gulzow grows a disease-resisting as well as a non-cracking variety.

W. IGGULDEN.

Planting Asparagus in autumn.—To those disposed to try this as recommended by "C. C. H."

(p. 157) I would emphatically say "Do not," unless on the smallest scale. Virtually Asparagus, root and top, is dormant through the late autumn and winter. In this state the roots are almost wholly isolated from the earth. In such condition they are very easily injured through cold or other evils. To avoid the risk or danger of dry sites it is better to sow the seed on the growing sites, and so avoid all the risks and checks of transplanting. Many years' experience has caused a general consensus of opinion in favour of spring planting—that is in March or April—the exact time for every locality being determined by the condition of the plants rather than by calendar. That condition is exactly when top growth is about to start or has grown an inch or so. Planted then with a minimum of root exposure, the roots grip the ground at once, and over 90 per cent. of the plants thrive well. A good deal, however, depends on the period chosen for autumn planting. According to "C. C. H." instructions about staking and his statement that the plants, though of fair size, soon took hold and grew freely through the remainder of the season, starting well the following spring, this points rather to summer than autumn planting, and may be less objectionable to those who can give the extra labour of staking, watering, &c., to keep the growing plants going in dry weather. This seems the more likely, as the writer recommends the choice of seedlings bearing a few large berries in preference to those bearing a lot of small ones. This, however, is rather puzzling, as seedling Asparagus seldom has any berries at all the first year, and seems to point to grass of more moderate size for autumn planting. Or can it be that berrying is inadvertently written for shoot or stem? Most likely, as that the fewer the shoots and the stronger the Asparagus planted at any season, the greater the certainty of fine edible grass. In sowing seed from older plants most growers agree as to the wisdom of selecting the finest berries for the renewal and improvement of their stock.—D. T. F.

The advice given by "C. C. H." is particularly timely this autumn, for so little progress was made in spring sown beds, and not a few failures, that there are blanks to be made good. Now we are favoured with copious rains on an already warm soil, everything is apparently making determined efforts to recoup lost time. In established beds I find quantities of young plants sprung up, and these, if occasion require it, may be lifted to repair broken lines, or planted in temporary beds for forcing later on. The roots now are very active, and in the course of a short time would be quite established and necessarily be in an advanced condition for spring growth next year. Except in good land, plants of these in common with other vegetables have had a hard struggle for existence in districts where the rainfall has been so short. In such instances every possible encouragement should be given the plants to assist the growth now so active, and certainly where there are young beds not well furnished, and there are plants to spare, I should strongly advocate, with "C. C. H.", autumn planting, giving sure there will be, more particularly in such an exceptional season as the present one has been, decided advantages in so doing. Some young plants lifted quite recently to ascertain the condition at the roots and crown were found quite active, and if planted quickly would scarcely feel the removal. W. E. Willis.

The growing of late Potatoes.—I specially recommend D. J.'s very practical remarks on this subject, which is one of growing importance, especially since the experience of last season with most of the longer kidney. The Champion and the Magnum Bonum were perhaps the greatest sinners in this matter. The worst of it is, the longer the kidney, as a rule, the more completely the super tuberation takes place at the growing end of it. The tendency of this is to lower the quality of the entire tuber. So general and severe was this depreciation of quality last year, that numerous families gave up the use of

kidney Potatoes. Virtually the major portion of them became unsaleable. Round Potatoes from their form super tuberate in a different way and with less loss due to the cutting of the tubers. The eyes break from the surface and form fresh tubers at the expense of and injury to the tubers, it is true, but nothing like to the same ruinous extent. The evil will have to be modified and subdued, if not arrested, through growing more round and fewer kidney varieties. When rains come late in the season, premature lifting is far better than second growths, that mostly also bring disease in their train. If carefully lifted and stored in the earth on the spot, the evils of early storing become blessings in disguise compared with those of super tuberation.—D. T. F.

Leeks and moisture.—Leeks are now making rapid growth where the necessary supplies of food and moisture can be given them. For home consumption I am not an advocate of the large Leeks so often seen on the exhibition boards. I like the thick, short plants. These are the best as regards home supplies, as there are less waste, less trouble during growth, and they are much sooner prepared for use. Plants which are grown as long as possible without the earthing up to get a large portion of stem blanched are more useful, as they swell more freely when not moulded up too early, and it is much easier to give food and moisture. Now is the time to feed freely, and if the rows can be flooded, the plants soon make headway. Fish manure is excellent at this season if it is given in showery weather or well washed down to the roots. Soot is equally good, as it keeps worms and slugs away. No matter how large the plants, it is not well to hurry the moulding unless the Leeks are required for exhibition. Far better let the plants swell freely, as they then winter well, there being less decay and few running to seed.—S. H. B.

EARLY MUSHROOMS.

In some places where early Mushrooms are necessary, a bed will by this time have been made up. By rule, beds do better made up in October than earlier, as there is then less evaporation in Mushroom houses, owing to less sun heat and a moister atmosphere externally. My earliest-formed bed is always a small one, good droppings from corn-fed horses being none too plentiful, but if it succeeds it supplies sufficient Mushrooms until the second and larger bed comes in. Forming a small bed comparatively early where droppings are scarce is decidedly an advantage, as, if postponed until a large bed can be formed, and this should prove a failure, a considerable interval occurs before the second comes into bearing, and this in many instances would be considered a serious matter. I am now collecting from stables where peat moss is used for bedding, as I have proved that this material does not interfere with the productiveness of the droppings. The late Mr. Gilbert, of Burghley, once assured gardeners of this fact in *THE GARDEN*, after which I saw no fear. By the time, however, my first bed is made up the horses are put out to straw, which enabled me to mix with the pasturage droppings about a fourth part of those of a better character. Abundant short pieces of straw keeps the manure going too closely together. I believe many failures are due to the use of droppings from horses which are being constantly pissicked with drugs. Some years ago a friend mine was compelled to use such material, and although he had great experience in Mushroom growing and great success previously, failure for several seasons stared him in the face. Happily for him, a change in the management of the stables occurred, after which he again produced Mushrooms in plenty. I have known cases where the droppings were thrown from the stable behind some wall or fence, and quite exposed to the weather. This is an evil, as an hour's heavy rain will saturate them, and they never seem to dry and mix so well after; some covering, even if of

most temporary nature, should be given, and the droppings brought to the garden at short intervals before violent fermentation takes place, spreading them out not too thickly in an open, airy shed, and moving them every few days till sufficient has been collected for throwing together. No fear need be entertained if the material becomes partially dried, better than waste the ammonical properties prematurely, as, if the dry portion is thrown into the middle of the heap and even a little water used, thorough moistness will be secured. If not already done let the Mushroom house be dressed thoroughly with lime-wash, previously using boiling water to the wood-work if any fear of woodlice exists. J. C.

TOMATOES THAT PLEASE.

ALTHOUGH large fruits, if fairly well formed, hold their own at the majority of exhibitions, the demand for them is rapidly waning. What pleases best are medium-sized to small fruit, or of a size say that go from six to eight to the pound. Fruit larger than that is tolerated, but those who supply the markets find to their cost that Tomatoes half-a-pound and upwards in weight are not wanted, and frequently have to be classed as "seconds" in the grading. Corrugated or ribbed fruits are also objected to and sent to the market are thought to be Jersey fruit. Unfortunately, the larger fruited varieties possess the best constitutions, while those that are corrugated are usually the freest setters. These must, however, be discarded in favour of the handsome, medium-sized, smooth round varieties by all who wish to please their employers, or if they are market growers, are anxious to obtain the best prices. Novelties among Tomatoes are as plentiful as new varieties of Melons, and what to grow is a problem by no means easily solved. I had given me of four model varieties all believed to be distinct, and whether they are so or not no mistake will be made in growing all of them extensively. Among them is a vigorous growing heavy cropping improvement on Conference, and in this instance the advance is in the direction of increasing the size of the fruit, more especially that produced on the later clusters. This sort is grown for the markets in the neighbourhood of Bath, and is much liked on account of the uniformity as well as the superior quality of the fruit. Another grower in the Taunton district has an equally pretty variety, the plants producing no large fruit nor any very small, while the quality is good enough for the fruit to be used for dessert. A Cheltenham grower has also selected a model variety, this taking the place of all others tried against it.

When, therefore, Mr. Jones (of Chrysanthemum fame), Lewisham, told me he had something very special to show me in the way of Tomatoes for market and other purposes, I was fully prepared to be very critical. As it happened, I was obliged to confess that he had raised or selected a variety that ought to become popular. He has hundreds of plants growing market grower's fashion across the border of a large span-roofed house, and also up the roofs in smaller structures. In every instance they are, or were when I saw them, carrying heavy crops of fruit from near the ground up to the top of the stakes or ridge of the roof, as the case may be. It appears that nearly everybody (myself included) who has seen these plants for the first time exclaims, "Oh, what a cropper," and this suggested a name for the variety—The Cropper. The largest fruit would not weigh half-a-pound, and the smallest would not be less than 2 ounces. They are borne on racemes, nine fruits being the most I counted

on one of them. Not a single fruit had a scarred or ugly centre; the colour is a deep red and the flavour excellent. There was no cracking of fruit to complain of, and if the crops were sent to the market they would invariably fetch the best prices. The Cropper is moderately robust, and there was not a trace of disease either in the plants or fruit. Next season readers of THE GARDEN will have an opportunity of judging for themselves whether it deserves all I have said in its favour or not.

Ham Green Favourite, to which The Cropper bears a resemblance, is a good market variety, and so also is Challenger. Both are extensively grown for the provincial markets, but I looked in vain for many of them in Covent Garden and the leading London fruiturers' windows. The best of everything is supposed to go to London, but what becomes of it after it arrives there? Rough, badly assorted and poorly packed Tomatoes are plentiful enough, but really attractive samples, such as we see in the best shops at Bath, Bristol, Cardiff, Gloucester and Cheltenham, are conspicuous by their absence. Bexley

when quite firm. Kept till they are quite soft they not only travel badly, but also lose much of their acidity, and are less pleasing accordingly.

W. IGGULDEN.

STOVE AND GREENHOUSE.

THE SWEET-SCENTED TOBACCO.

(*Nicotiana affinis*.)

The accompanying illustration shows the beauty of the flowers of this Tobacco when arranged in a bowl. One does not often see them used for this purpose, but the ivory-white colour and their sweet scent, especially in the evening, should make them popular for cutting for the house. Few plants are more useful to the amateur than this. The seed may be sown in gentle heat, and the young plants when large enough pricked off, or potted singly into small pots, using a light, thoroughly well-drained soil. Pot them on as the pots get filled with



Flowers of Nicotiana affinis in a bowl.

Heath and other growers within carting distance of London rely principally upon the heavy cropping, somewhat coarse, solid-fruited Bashedford, doubtless because it pays best, but this class of fruit does not please connoisseurs, and the time will come when the Ham Green type will be in the ascendant everywhere. Each year the number of those who eat Tomatoes as freely as or more so than Apples, and in the same manner, is added to by thousands, and this class of customers ought to be catered for. Most of the small-fruited varieties have tough skins and are poor in quality. These I would not grow, preferring rather to eat, or to offer for dessert, medium-sized fruit of either Ham Green, Challenger or A. I. Leave them on the plants till they are nearly red and afterwards keep them one or two days longer in a warm, light place to bring up their full colour and to develop their rich flavour. They are at their best when moderately soft, but if they are to travel, they ought to be packed

roots until they are in 4½-inch or 5-inch ones, which will be quite large enough for the ordinary greenhouse. This Tobacco may also be planted out in the garden, the end of May being the best time to do this. Put the plants in a bold clump if the garden is large enough, as then one gets the rich mass of bloom, so fragrant and beautiful in the evening. T.

Cassia corymbosa.—This fine old greenhouse plant, which was introduced from Buenos Ayres just two centuries ago, can be seen in fine character in one of the sheltered spots in the pleasure grounds at Dropmore, Maidenhead. It occupies the centre of a small bed, and being permitted to spread in an unrestricted manner it is seen to be flowering gloriously, displaying its bright yellow blossoms in numerous corymbs. Classed among the half-hardy greenhouse plants, it is easily cultivated. Kept in pots through the winter and then planted out when all danger from frost has passed, it appears to revel in the liberty it enjoys and blooms profusely. Mr.

Herrin is careful not to allow its foliage to be touched by frost, and as soon as frosty signals are hung out the plants are lifted, cut back, potted, and kept comfortable during the winter, and in June placed in the open again. It makes a charming object as a foreground to the sombre hues of the foliage of shrubs at the back. It deserves to be largely used for the summer display.—R. D.

Tuberose.—The latest batches of these indispensable flowers that are intended for supplying the winter months with their exquisitely fragrant flowers should now receive close attention. Very soon the nights will be cold, and where the plants have been propagated these will be transferred by being placed in cold frames, so that the lights may be put on each night when the temperature is expected to fall lower than usual. On warm nights and with a heavy dew expected, the plants will be benefited by being left uncovered, as the moisture will tend in a degree to keep down the attacks of red spider. Where this is troublesome, and in many instances on account of the great heat it has been so, it will be found beneficial to frequently syringe the plants with soot water. This may be kept up so long as the plants remain in the frames outside or so long as no flowers are opening. In those instances where the spikes are pushing freely liquid manure may be given at least twice a week, and where the plants are yet in full growth they may be watered overhead with a clean, weak solution of the same when the frames are closed each evening. The fumes rising from this are also serviceable in checking the spread of red spider often so abundant after a year of heat and drought.—E. J.

VALLOTA PURPUREA.

EACH season various notes on this beautiful bulbous plant appear, but it cannot be overpraised when the beauty of its blossoms and its simple cultural requirements are taken into consideration. The latter remark applies to the old-fashioned Vallota of our gardens, but of late years immense numbers are sent to this country from South Africa, and they frequently fail to become established in a satisfactory manner. These imported bulbs usually reach here in a dormant state in July or August, when they should be at once potted and kept cool and fairly dry during the winter.

Then, owing to the change of seasons, many of them will push up flower-spikes about the month of May following. A year or two ago at the Temple show there were some well-flowered examples of Vallotta. These imported bulbs frequently decay from what appears to be an excess of moisture, however dry they may be kept. Perhaps this tendency is to a certain extent generated by being confined in a close box during the journey to this country. Imported bulbs should when received be cleaned over and potted in a soil consisting of good sandy loam, which will remain sweet and fresh for years. The pots employed should be small and well drained, as the object is to obtain plenty of good healthy roots, and this will not be where large pots are used. The Vallotta very much resents being disturbed at the roots, as many a one has found to his cost for if large entangled masses are broken up and repotted it is generally done at the expense of many blossoms. Vallotta like their allies, the Nerines, flower best when the bulbs are closely packed together so that they almost lift each other out of the soil. Both the foliage and flower-spikes of these imported bulbs are in many cases tall and weak. The flowers of these imported bulbs show a considerable variation in colour, and to a less extent in the shape of the flower, some having much broader segments than others, and consequently a far rounder flower is the result. Some, too, are very rich in colour; others have rather a conspicuous white or whitish centre, while blossoms of a pink or salmon-pink tint often crop up among them, while one occasionally bears of a pure white variety. Vallottas are easily raised from seed, and if the young plants are dibbled into a bed of prepared soil and

covered with a frame, they will make more progress than if confined in pots during their early stages.

H. P.

BOUVARDIAS.

HUMBOLDTI has been flowering since early in June and will go on for some time yet. For cut bloom it is very useful. Complaint is sometimes made that the flowers soon drop, but if the trusses are cut as soon as the first bloom or so is out, they will last fairly well and the other buds will open. One important point is to put the flowers into water as soon as cut, if the stems get dry they should be cut again just before putting them into water. Among other varieties which are just coming into bloom are whites: jasminoides; Vreelandii, candidissima, and alba odorata jasminoides; the last named is a fine tube variety, the flowers being of good substance and the tube undivided. The last is pale yellow, a slight tinting of pink, but the upper part is pure white, a great improvement on the older variety Bridal Wreath. Of scarlets there is none better than President Cleveland. Dazzler when first sent out was very bright, but with me it has not kept up its character, plants flowering now being much paler in colour than when I first knew it. Mrs. R. Green though a little inclined to sport, may be careful selection of stock be kept up to its best form, and is undoubtedly the best pink, though Priory Beauty is still a favourite. The double varieties worth growing are still confined to three sorts, viz., A. Neuner, white; President Garfield, pink; and Hogarth flore-pleno, scarlet. In referring to whites I omitted to mention Purity, which has done better this season than I have seen it since I first grew it.

To succeed well with Bouvardias there are three essential points to be observed: first to keep them potted on and feed them liberally; second, keep them free from all insects; and thirdly, to fully expose them to the sun. The time of flowering may be regulated by stopping at different intervals. I have previously referred to Humboldti as requiring different treatment, but I may again mention that it will not flower satisfactorily if stopped late in the season.

A. H.

Abutilons for roofs.—The value of Abutilon for clothing greenhouse roofs is well exemplified in No. 4 greenhouse at Kew, where there are two plants, one of Boule de Neige, and the other Golden Fleece, with white and yellow flowers respectively, that cover a portion of the roof, and their pendulous bell-shaped blossoms hang therefrom in great profusion. The choice is by no means limited to these two, as there are many varieties, but some are rather too dwarf for such a purpose, while many of the so-called reds are too much of a brick colour to be effective. One of the original species, viz., A. stratiotes, whose blossoms are yellow veined with crimson, is also particularly effective when trained to a roof, and it may be used for larger structures than the varieties above mentioned, as it is altogether of a more vigorous loose style of growth. Quite distinct from any of these is the small-leaved A. versicolor, or A. megapotanicum, as it is often called, whose blossoms are also very distinct.—H. P.

Costus igneus.—This has been many times noted in THE GARDEN, and in one of the stove at Kew it is at different periods of the year very conspicuous. The flowers of an inch or so in diameter, are borne in terminal cone-like heads, and though they are thin in texture and do not last long, a succession is kept up from one cluster for a considerable time. This Costas flowers in a smaller state than many other Ginger-worts, as it blooms profusely when not more than 18 inches high; that is, when grown in pots, for if planted out in rich moist soil it attains a greater height. It is a native of Bahia, whence it was introduced by M. Linden in 1882. Besides THE GARDEN, it has been frequently noted in various other publications, and in December, 1893, it was, when

shown by Sir Trevor Lawrence at a meeting of the R.H.S., awarded a first-class certificate. One species of Costus has been figured in THE GARDEN on March 9, 1895. This was C. speciosus, a more vigorous growth than C. igneus, while the large white flowers are borne in spikes from a crowded head of reddish bracts. The flowers of this are of about the same delicate texture as those of the preceding, and 3 inches or so in diameter. It is a plant of easy culture, but in a general way more satisfactory if planted out than when grown in pots.—H. P.

Senecio Galpini.—This Senecio which was noted in a recent number of THE GARDEN as flowering in a narrow border near No. 4 greenhouse at Kew, would appear to bloom at widely different periods of the year, for last Christmas its brilliant orange-coloured flowers were particularly attractive in the Heath house there, and suggested it as likely to become popular for its winter-blooming qualities. This Senecio is a distinct member of an extremely variable genus, as it forms a sturdy, partially succulent-like stem, clothed with fleshy leaves which are of a very glaucous hue. The stem branches freely and reaches a height of a foot to 18 inches, the blossoms being borne on the apex of each shoot. They are arranged in a closely packed head a couple of inches or so across, and, as above noted, their brilliant colour causes them to stand out very conspicuously. It was introduced from South Africa about half a dozen years ago, but, despite its undoubted merit and apparently easy culture, I have not met with it outside of Kew, nor seen it mentioned in any trade catalogue.—H. P.

Plumbago capensis.—The true beauty of this fine old climbing plant is very rarely seen, for in most instances it is trained to a wall or trellis often near a walk, so that it has to be closely clipped in about every other season. While looking through the gardens at Ickworth Park, Bury St. Edmunds, recently I was driven by an almost tropical downpour of rain to seek shelter in the conservatory. Here this plant is grown as it should be; the structure is lofty, and the Plumbago is trained right across it at intervals, the long shoots wreathed with the beautiful pale blue flowers to a length of 6 feet or 8 feet, and forming a most impressive sight hanging from the tie bars of the roof. In a cool house where atmospheric moisture is fairly abundant this Plumbago rovells, and to anyone having a suitable situation at command I would say, grow it in this way. Plant it out, let it find its own way to the roof, and only do what thinning is necessary to keep it within bounds. The result is sure to be satisfactory, and those who only know it trained round balloon-shaped or circular trellises or tied in close to a back wall can hardly realise what a magnificent plant it is when allowed to have its own way. Any good ordinary soil will grow it, and with care insects will not be troublesome. The best time to do what little pruning is required is soon after the flowers are over, this allowing the young shoots that are left to get thoroughly ripened, so that they bloom not only on the end, but at almost every joint.—R.

Bougainvillea glabra.—A fine old plant of the climber may be seen at Ickworth Park in one of the greenhouses. Just now it is a mass of blossoms, and as it covers a space of about 20 feet on the roof, the effect is very beautiful. Though a native of Brazil, this Bougainvillea does much better in a greenhouse than in the stove, and if planted in a light, sunny position where the wood gets well ripened it is extremely free-flowering. Pot culture under the same conditions is suitable for it. The growth must be allowed as much freedom as possible, cutting the plants into shape a little during early winter. They start more freely with a little heat in early spring, but when growing freely may be placed in a cool greenhouse, where a plentiful supply of flower may be produced over a long season. Cuttings may be taken as soon as the wood is getting a little firm in early autumn, and they will strike freely if dibbled into a sandy compost and placed under

a bell-glass or in a propagating case. Pot up as soon as rooted and get all the growth possible into them the first season or two, fine plants being the result of about four or five years' growth. If seen to be necessary, frequent applications of liquid manure must be given, that made from soot water, alternating with any good concentrated manure, being suitable.—R.

FLOWER GARDEN.

WALL GARDENING.

The best methods of wall gardening very often suggest themselves in places where old masonry or brickwork has long been left to Nature, and especially to the action of the wind and weather. It is difficult to visit any really old ruin, be it abbey, priory, church, or castle, without finding it more or less clothed with vegetation. At Rochester the wild Carnation of Normandy is quite at home, and on nearly all old castles the golden Wallflower is luxuriant, and very often, as on the great bastions at Conway, the red Valerian is also quite at home. The old walls at Oxford are noted for their vegetation, such as the Cheddar Pink, the purple Tadflax, and many other pretty things. Snapdragons and all kinds of dwarf Pinks, Eschscholtzias, and many of the Campanulas are as happy on old damp walls as anywhere, and the same is true of the Indian Androsaces, such as *A. lanuginosa* and *A. sarmentosa*. I have had Ramondia pyrenaica strong and healthy on a shady wall for ten or twelve years, and Arenaria grandiflora forms fleecy carpets of its white flowers as it hangs from the stone pockets on the face of the brick walls. *Erinus alpinus* and the alpine *Linaria* nestle in the old mortar joints everywhere, and as so situated they often escape our hardest winters unclothed, while those in the borders are often killed off by frost and damp combined.

Wherever old walls already exist, one of the best ways of covering them with vegetation is to sow them at once with fresh seeds. One of my methods is to sow the wall tops every year during a rainy period if possible. To this end I save or obtain seeds of *Erinus*, all kinds of *Dianthus*, *Linaria*, *Antirrhinum*, *Trachelium*, Wall-flower, *Draba*, strong-growing *Saxifrages* of the rosette or encrusted section, and other suitable things. These seeds are all well mixed together in a basket or box of dry soil finely sifted, and then the whole mixture, seeds and soil together, are sown on the wall tops or in the made pockets wherever such exist. If the weather is dry, the whole surface is watered after sowing with a fine rose so as to settle the seed and soil well down into the cracks and crevices of the wall. Wherever retaining walls have to be made against sloping banks of earth, it is often easy to form them of rough stones and good loamy sods, and in some cases it is best to plant such walls as they are being made.

In some cases walls may be specially constructed and made either hollow or pigeon-holed, or both, so as to afford root-hold when the interstices are filled with good soil. Or flat stones may be fixed to the existing faces of blank walls, so as to form chimks, pockets, and crannies, into which seeds may be sown or plants inserted, as the case may be. It is not difficult to fix stones to wall surfaces with large nails and a little cement. Two large nails are driven into the wall joints so as to support the stone temporarily in its position, and then

the cement is used to fix it permanently in its place, after which the nails may be withdrawn if necessary.

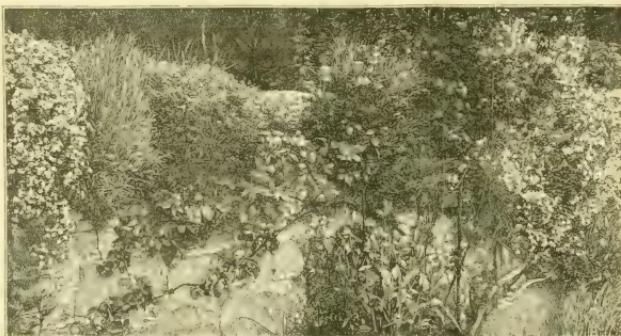
One of the handsomest of all our wall plants now in flower is *Campanula isophylla alba*, hanging down in flower masses, 2 feet or more, in front of a shady wall. All the dwarf Bell-flowers, *Ramondia*, and small-growing Ferns are happiest on the damp and shady side of walls, but *Erinus*, *Linaria*, *Dianthus*, *Onosma tauricum*, *Androsace lanuginosa*, and various kinds of dwarf *Cistus* and *Helianthemum* enjoy the sunny side best. *Onosma*, which often fails to grow satisfactorily on an ordinary rockery, and often gets killed by frost and damp at ground level, does perfectly in a wall pocket and flowers most profusely every year. The tops of large, broad walls and arches over gates or doorways may often be adapted for the growth of German Iris with very good effect, or the Flag Iris and Carnation may be planted together, by which a good evergreen effect is produced all the year round and two flowering periods are obtained. Very pretty effects may be also obtained by layering shoots or branches of the best flowering wall

fresh and beautiful. *Polyodium trichomanoides*, *Osmunda regalis*, and several *Polythichums* were exquisitely green and luxuriant.

There is really no limit to the plants that lend themselves to wall gardening in all sorts of aspects and situations. Even some of the choicer kinds of alpines may be grown on walls by the aid of a copious water supply, and a hose pipe connection with the water main is often a great advantage, as there is naturally a considerable amount of evaporation from all exposed wall surfaces.—F. W. B.

Mrs. Horace St. Paul, The Willows, Ripon, who kindly sent us the photo from which the illustration was engraved, says :

The illustration of an old wall in a garden shows how pretty one can be made covered with creeping plants, alpines, and other small varieties, such as different sorts of Pinks, which grow in masses and seem to revel in a hot, dry situation. Yellow Alyssum, *verbena*, Aubrieta, *Saxifraga ocymoides*, *Eruca sativa*, *Saxifrage* of many sorts, and the old-fashioned Snapdragons and Wallflowers all add to the beauty of the wall at their different seasons; while at the foot of it in a border about 14 inches wide the Rock Cistus



A garden wall. Engraved for THE GARDEN from a photograph sent by Mrs. Horace St. Paul, The Willows, Ripon.

shrub on to the tops of broad garden walls. Thus where *Wistaria*, *Forsythia*, and various kinds of *Amelanchier*, or *Vitis*, *Ceanothus*, or *Passion Flowers* overtop a broad wall it is easy to bend down and layer some of their shoots under large sods and a heavy flat stone or two. In this way many a straight and stiff wall-top may be naturally diversified in outline and rendered far more beautiful in the garden landscape. But the methods of wall gardening may be varied at will, and will at once suggest themselves to those fond of flowers. I visited a town garden the other day which simply consists of a flagged and walled-in space of 30 x 15 feet. At first sight to an ordinary observer there seemed no chance of planting anything whatever, but the owner happened to be fond of flowers, and was determined to have them. In some places the walls were covered with *Amelanchier* of different kinds planted in boxes and tubs in the corners, while the bare walls had been roughly shelved, and plants are grown in boxes of earth so as to hide both walls and shelves. A combination of Creeping Jenny (*Lysimachia*) and *Campanula isophylla alba* was very fine, and on the shady side of the little yard some of the rarer British Ferns were very

of all colours, blue *Veronicas*, and many small rock plants too numerous to mention find a happy home, and are a constant source of interest and pleasure to their owner.

Marigold Legion of Honour.—Although the old *Tagetes patula nana* is still employed, and with good effect, in gardens, the dwarfer, single-flowered variety *Legion of Honour* is now far more largely employed. I saw recently both at Stratfieldsaye and Heckfield the variety used with striking effect. It comes very true from seed.—D.

The Mallow-like Lavatera.—The variety known as *Lavatera rosea splendens* is largely used at Stratfieldsaye, not only for giving a lively rose hue in mixed beds, but also in beds in the reserve ground to furnish flowers for cutting. The flowers will keep fresh for a week. The white variety is also most useful. Two or three sowings are made during the spring to give a long succession.—D.

Carnation Uriah Pike.—I was astonished to see in a recent issue of THE GARDEN a note suggesting that the above named Carnation had settled down into nothing more nor less than the old Crimson Clove. Up to the present I can discern no points of similarity but those of colour and scent, as, independent of the non-bursting

properties of the newer variety, it has smooth edged petals and fewer of them, it is much taller in habit and the grass is not nearly so stout, though on the plants which have been grown outside the latter difference is not so marked as it is on pot plants. A large number of Uriah Pike planted last September came through almost without a blemish and in strong contrast to the old Clove, which is one of the worst of similes with regard to the Carolina sp. I do not want to over-praise the newer variety, as I do give it a character which will not be sustained, as I know from bitter experience that many varieties which come safely through their first winter in the open are not to be depended on to always succeed; so it is only fair to add that the plants I put out were layered from pot plants which had been flowered under glass, and I am sorry to note thus early the spot on many leaves. In the future career of Uriah Pike what it may, it is most certainly distinct from and unlikely ever to merge into the old Crimson Clove.

J. C. TALLACK.

FLOWER GARDEN NOTES.

STARWORTS.—Of these a judicious selection will prove very effective. The combination in the case of Starworts should be regulated with due regard to the time of flowering and to the habit of different varieties. It is, for instance, not advisable to put sorts together that are very formal alike in growth and in their manner of flowering. The flat heads of bloom should rather be varied with those sorts that are of branching habit, throwing up graceful stems either tall or of medium height, and if there is likely to be a large demand for flowers for cutting, varieties can be chosen most suitable for the purpose. The selection may include the best in different sections, that the season may be prolonged. To select varieties from the sorts now catalogued is rather a difficult matter. If the intending planter can make a personal inspection at the time of flowering, this is decidedly the best plan, as the most suitable sorts can then be chosen. So far as those available for cutting are concerned, Purity, Coombe-fishare, cordifolius albus, Diana and major, the varieties of vimineus and diffusus, with Tradescantia are good in their respective seasons. No hardy plants are more easily cultivated. Some of the varieties, it is true, make headway more slowly than others, but all will easily propagate, perfectly hardy, and will grow in almost any description of soil, although they are seen at their best in a rather retentive loam. They vary considerably in height as the soil is good or indifferent, and also with different seasons, although atmospheric influences have not so much to do with the variations as the soil, especially in the case of old-established clumps. Close attention must be paid to respective heights in all mixed planting. They are of all sizes, from the dwarf dumosus, no higher than an ordinary Geranium, to the 6 feet of Purity, one of the strongest and most vigorous of the family.

MONTBRETIAS.—The relative displays of 1895 and 1896, so far as these flowers are concerned, are altogether in favour of the latter year. In the February of 1895 they were cut down just below the ground line, and were never so strong as usual. I anticipated a late flowering, but, on the contrary, this was earlier, quickly over, however, spikes and flowers being alike small. This year there was not the slightest check and the foliage has been tall and strong, but all varieties were later in flowering. When we did get the flowers they were very nice, and the reason has been a long one; indeed, from one particular border I have cut a good supply ever since the third week in July, and there is still (September 2) a very fair show. I find that down rather more freely in a sunny position, and the best results are obtained from a dry, well-drained border facing south-east. It is carpeted with Alpine Phloxes, and these naturally have a tendency both for shelter in winter and to prevent a succession of very hot days drying up the border. This latter may sound somewhat contradictory, but the

Montbretias corms were planted 6 inches deep, and the shallow-rooting Phloxes do not get down more than half that depth.

SPANISH IRIS.—Accepting the statement that the Iris family as a whole may be justly termed the Orchids of the flower garden, I often think that whilst the large-flowered families will bear comparison with Cattleyas and Lelias, the Spanish section may challenge the beauty of their individual flowers some of the smaller but not less beautiful inmates of the Orchid houses. A bouquet composed of some of the choice kinds will hardly be up to some of the foliaceous ones, scarcely to be beaten by any flower either tender or hardy. Perhaps a border of moderate size that is partially devoted to some of the choicer herbaceous plants of medium size is the best place for them, and, bearing in mind the fact that they are of erect habit and with only a trifling amount of foliage, they should be planted close enough and in sufficient quantity to give a good display. The fact that they are somewhat quickly over and that the foliage is not long retained necessitates filling up the space they have occupied, and this may be effected by planting or sowing and thinning out some free-flowering shallow-rooting annual.

Clarendon.

E. BURRELL.

SOCIETIES AND EXHIBITIONS.

THE NATIONAL DAHLIA SOCIETY.

CRYSTAL PALACE, SEPTEMBER 4 AND 5.

All types of the Dahlia were well represented at the exhibition of the National Dahlia Society on September 4 and 5 at the Crystal Palace. The superb quality which characterized the show and fancy varieties in 1895 was wanting, but it was much better than might have been expected. All the other types were seen in the best character. Show reformers may protest energetically against the present method of exhibiting the large, deep, round flowers, but until some other better method is put forward the custom will go on. The fine bold bunches of the Cactus, the pompon and the single types now afford relief to the monotony of Dahlia exhibitions of twenty years ago, and the old methods of showing the big blooms on show boards are not tolerated now longer. But probably the most attractive class bloom is evidence of high development, and so we may reasonably hope that it will be long before the old method, so distinctly favoured by those who grow for exhibition, will be altogether abandoned. As is usual, the flowers were arranged in the eastern portion of the nave, and being flanked by miscellaneous collections of cut flowers, &c. at the sides, an effective display was made. The arrangements made by Mr. T. W. Girdlestone and Mr. W. G. Head were excellent. Judging commenced early and was got through in comfort, the flowers being thrown open to the public at an early hour. It was to be noticed that here, as at the Aquarium, Mr. Charles Turner, of the Royal Nursery, Slough, was unable to exhibit in any of the classes for show and fancy Dahlias.

Five classes for show and fancy Dahlias (intermixed) were open to the large dealers. The difference between a show and a fancy Dahlia—so clearly understood by experts and often so bewildering to the public—is a purely arbitrary one. It became necessary some years ago that some distinction be made, as the fancy type was later in development than what is known as the show type, and consequently was for many years below it in the matter of improvement and quality; but of late years the latter has come more abreast of the former, and that is the reason why the distinction of the classes show and fancy Dahlias are now shown intermixed. The amateurs now show fancy Dahlias by themselves, not wishing to abolish the custom altogether. But it must be admitted that the presence of the fancy varieties in a large stand of show Dahlias does add life and vivacity to it, as it affords a large mixture of showy combinations of colours. Let us say before

leaving this point that fancy Dahlia Peacock is classed among the fancies because the crimson-purple florets are tipped with white, but if the disposition of these two colours was reversed and white took the place of the crimson-purple at the base of the petals, and these were tipped with colour, the flower would cease to be a fancy and be classed among the show varieties.

Messrs. Keynes, Williams, and Co., nurserymen, of Salisbury, came to the fore on this occasion, and were awarded the first prize in the class for sixty varieties. Despite the generally low average of quality, there were some blooms of fine character in this collection, such as Mrs. Chamberlain, a deep crimson self, not this season; Dandy, orange-buff, striped with red; William Rawlings, Duchess of Albany, a charming fancy; S. McRimmer, a fancy which had sported to a crimson self, as fancy flowers are apt to do; John Hickling, yellow self; Richard Dean, which perhaps surpasses all other varieties of the same character in its rich purple glow; Dr. Keynes, a distinct new variety, rich buff yellow, with a reddish tint at the back of the petals; Alice Emily, buff-yellow; John Walker, the best white self; William Powell, yellow; William Jackson, a rosy purple self; Golden Fleece, yellow ground, splashed with crimson; Miss Cannell, an excellent purple-edged variety; Henry Bond, a very pleasing rosy lilac self; Matthew Campbell, apricot, striped with crimson; Gaiety, a very pleasing, but changeable fancy; R. T. Rawlings, yellow; T. S. Ware, a fine crimson self; Eclipse, brilliant scarlet; Crimson Globe, bright crimson; Kathleen, a charming blush and delicate lilac flower; and Frank Pearce, rose, striped with crimson, one of the best fancy varieties in cultivation. Mr. John Walker, Thame, took the second prize, and his stand contained Mrs. S. Walker's charming delicate flower; Mrs. Gladstone, a so good this season as usual; Ethel Britton, blushing white and purple; Mrs. J. Downie, a bluish-tinted fancy; Earl of Ravenworth, bright lilac; and Geo. Rawlings, camellia, striped with crimson. Mr. Mortimer came in first with forty-eight varieties, chief among them Shottesham Hero, bluish-tinted with red; John Hickling, Frank Pearce, Queen of the Belgians, a beautiful delicate variety, and well adapted for garden decoration because it throws its flowers so well above the foliage on erect stems; Glowworm, very bright, and Mrs. Saunders, a charming fancy, yellow, tipped with white. Mr. Seale was second. He had in fine character Pleasance, bright crimson-scarlet; John Walker, Glowworm, a bright orange-scarlet self; Peacock, &c. With thirty-six varieties, Mr. J. T. West, Tower Hill, Brentwood, was placed first with some excellent blooms, chief among them Mrs. Gladstone, R. T. Rawlings, John Walker, Frank Pearce, Matthew Campbell, Kathleen, John Rawlings, E. Spurman, Robert Fife, old gold, with reddish reverse; Henriette, delicate bluish-pink; Hero, crimson, shaded with deep maroon; Warrior, bright crimson; and Miss Fox, pale ground, tipped with purple. Messrs. Kimberley and Son, nurserymen, Coventry, were second. Mr. West was also first with twenty-four blooms, having Victor, a fine dark variety; J. Wright, Wm. Rawlings, and Horcules (fancy). With twelve blooms, Mr. H. Harris, Writtle, Chelmsford, was placed first; Mr. J. R. Tranter, nurseryman, Henley-on-Thames, was second.

In the amateurs' division for twenty-four blooms, show and fancy, Mr. R. Burgin, St. Neots, an enthusiastic working man, was first, his leading blooms being Vice-President, an old but well-known variety; R. T. Rawlings, Mrs. Saunders, John Walker, Gloire de Lyon, a white self; Prince of Denmark, and Burgundy; second, Mr. F. W. Fellowes, Puttneybridge, Luton. With twelve blooms of show Dahlias only, Mr. A. Starling, gardener to Mr. H. H. Raphael, Havering-Romford, was first with a very good stand, chief among the varieties being Prince of Denmark, Miss Cannell, Willie Garrett, R. T. Rawlings, and W. Rawlings; Mr. S. Cooper, Chippenham, was second. Mr. E. Jefferies, Langley Burrell, Chip-

penham, was first with six blooms; Mr. C. F. Kepp, Sunny Hill Road, Streatham, was second; and Mr. A. Mount, Slough, third. The fancy Dahlias are always bright and effective, and the best stand of twelve blooms came from Mr. S. Cooper, he having in good character Dazzler, yellow striped with scarlet; Matthew Campbell; Mrs. Saunders, always a great favourite; the Rev. J. B. M. Camm, yellow flaked with red; Frank Pearce, Duchess of Albany, orange, striped with crimson; Lottie Eckford, bluish, spotted and striped with crimson; and Comedian, one fifth of the flower yellow, striped with crimson, the remainder self crimson. Mr. T. Anstiss, Brill, Bucks, was second. Mr. W. Wheeler, Henley-on-Thames, had the best six blooms, including Mrs. F. Mortimer, yellow, tinted with fawn; Grand Sultan, buff, striped with red; Dandy, orange, striped with crimson; and Mr. A. Starling, was second.

Show and fancy Dahlias in sizes of one variety are always interesting; thus the best dark Dahlia was James Cockier, shown by Mr. J. Walker; Mr. West came second with William Rawlings. The best light not yellow was John Walker, shown by Mr. J. Walker; Mr. Geo. Humphries was second with the same. The beat yellow was John Hickling, also from Mr. Walker; Mr. Seale was second. Mrs. Saunders gained all the prizes at the best tipped Dahlia for Messrs. Seale, Cheal and Walker in the order named. The best striped was Frank Pearce, from Mr. G. Humphries; Mr. Walker came second with Hercules. The best edged was Miss Cannell, from Mr. Walker.

The Cactus and decorative Dahlias made a superb display, especially in the nurserymen's classes. In that for eighteen varieties bunches of six blooms, which is quite large enough, Messrs. J. Cheal and Sons were the only exhibitors, and were placed first with superb illustrations of Matchless, the finest dark; Harry Stredwick, very effective; J. Frewer, bright vermilion; and Mrs. Wilson Noble, a beautiful Cactus of a pleasing pinkish salmon tint. Mrs. Gordon Sloane, also a true Cactus, colour pinkish terra cotta, very fine; Mrs. Beck, puce salmon-red; Earl of Pembroke, purple; Beatrice, pale rose, a very distinct variety, and Delicata were among the most striking. With twelve varieties, six blooms of each, Mr. J. T. West was first, his most striking bunches being Matchless, Miss Annie Jones, scarlet, shaded with crimson, very effective; Mrs. F. Fell, Earl of Pembroke and Lady Penzance. With twelve bunches of decorative Dahlias, from which the true Cactus type is omitted, Mr. Seale was first, the best small section being Miss Weston, yellow; Ernest Glaser, cream; Captain; Harry Freeman, white; Countess of Pembroke, delicate purplish lilac; and St. Catherine, deep yellow. Messrs. J. Cheal and Sons were second, they having Maid of Kent, crimson, tipped with white; James Hudson, buff, flushed with dull red; Canary, yellow, and Chanceller Swaine, purple. In the amateurs' division for twelve Cactus and decorative varieties, Mr. J. Stredwick was first, having good bunches of six blooms each of Gloriosa, Earl of Pembroke, Countess of Radnor, Lord Penzance, and Matchless among others. Mr. W. Mist was second. With six varieties, three blooms of each, Mr. S. Cooper was first, Beatrice being one of the most prominent.

Messrs. J. Cheal and Sons' special prizes for nine bunches of Cactus varieties, three blooms of each, brought a spirited competition, the varieties already mentioned being shown. Mr. J. Stredwick was first. Mr. J. Hudson was awarded the gold medal offered by Mr. Thomas Ware for twelve blooms of Cactus Dahlia Mrs. Francis Fell.

Most striking were the trade collections of twenty-four varieties of pompon Dahlias set up in bunches of ten blooms. Here Mr. M. V. Scale was first, the leading varieties Eva, salmon-rose; Whisper, yellow, edged with bronze; Captain Boyton, very dark maroon; Little Duchess, pale, tipped with crimson; Nerissa, delicate rose-pink, very pretty; Douglas, dark, almost black; Spitfire, bright red; and Phoebe, pale ground, tipped with deep reddish orange. Mr. C. Turner,

Royal Nursery, Slough, was second. With twelve bunches Mr. J. T. West was first; he had Abundance, white; Mary Kirk, primrose; Sunshine, bright red; Donovan, bluish, tipped with rose lilac; Doctor Jim, heavily tipped with purplish maroon. In the amateurs' division for six bunches, ten blooms in each, Mr. W. Mist was first. With six bunches of six blooms Mr. G. Wyatt, Twickenham, was first. Not less striking were the single Dahlias in effective bunches. In the class for twenty-four varieties Messrs. J. Cheal and Sons were placed first, the most attractive varieties being Beauty's Eye, delicate pinkish lilac, with crimson ring round the eye; Victoria, moon; Hood, pale ground, broadly edged with crimson; Miss Roberts, clear yellow; Eclipse, rose mauve and salmon; Duke of York, bright scarlet; Miss Gladys; The Bride, white; and The Demon, shining maroon.

In the amateurs' division the best six bunches came from Mr. T. W. Girdestone, who had charming varieties in Orange Girl, Mary Netley, Sven-gali, Naomi Tighe, Dona Casilda, and Polly Eccles—all new varieties of his own raising. Mr. W. Mist was second, and Mr. C. Osman, Sutton, third. With six bunches, six blooms of each, Mr. E. Rawley, Rosebank, Berkhampstead, was first with Beauty's Eye and others. One of the most delightful features of the exhibition was the class for twelve varieties of fancy single Dahlias, the flowers tipped, striped, or edged. But one competitor entered, viz., Mr. T. W. Girdestone, the secretary of the society, who staged bunches of charming varieties, such as Jack Daw, yellow, finely striped with red; Phyllis, pale ground, flushed and suffused with pale lilac, purple, and dark crimson; Hazel Kirke, orange-red, tipped with white; M.C.C., yellow, flushed with orange-red; Nan, bright red, tipped with white; Jeanetta, white, with side margins of orange-crimson; Splosh, yellow, striped and flushed with crimson; Cinderella, white, with side edgings of reddish orange; Emmie, white, with side edgings of rosy crimson; Tribly, maroon, tipped with white, very fine and distinct; Pely, pale ground, suffused with pink, and side margins of crimson; and Dearset, yellow, tipped with orange-red. This was classed as an exhibition of single Cactus Dahlias, a prize presented by Messrs. Dobbie and Co., of Rotheste. Mr. J. Hudson was first. The best vase or ergone of Dahlia blooms with foliage of any kind came from Mr. J. Hudson, a charming arrangement, set up in excellent taste.

A large number of certificates of merit were given to various varieties of show and fancy Dahlias. Queen, Autumn, orange-buff or deep apricot, fine in outline and petal, a very acceptable blending of colours; and to Mabel, delicate pinkish lilac, flushed with crimson. From Mr. Geo. St. Pierre Harris, Orpington. To the following Cactus varieties: Aurora, bright orange-salmon, small, very pleasing, and likely to make an excellent garden variety; from Mr. H. Green, Dereham. Fantasy, pale orange-red, the florets incurring to the centre; from Messrs. J. Burrell and Co. Miss Webster, a pure white decorative variety lacking the true Cactus form; from Messrs. Dobbie and Co., Orpington. Mrs. Gordon Sloane and Mrs. Leopold Seymour, yellow, the petals tipped with bright lilac; from Messrs. J. Cheal and Sons. Iona, a fine Cactus variety, of a reddish salmon tint, from Mr. C. Turner; Cycle, crimson, tipped with lilac, fine shape; Keynes' White, a very promising white variety; and Starfish, pale orange-red, very fine; all from Messrs. Keynes and Co., Salisbury. Charles Woodbridge, bright crimson, slightly shaded, a true Cactus type. To the following pompon Dahlias: Dr. Jim, pale ground, heavily tipped with wine-purple; from Mr. J. T. West. Starfire, glowing red, flowers of fine shape; from Mr. Scale. Guinevere, yellow, edged with deep red, and Gandy made, tipped with silver mauve and bright blue, from Mr. C. Turner. To single Dahlias: Poly Eccles, Naomi Tighe, Tribly, Emmie and Folly, described in report, from Mr. T. W. Girdestone; and to China Rose Queen Mab, buff, with darker centre, the foliage dark

bronze; from Messrs. W. Paul and Son, nurserymen, Waltham Cross.

Of miscellaneous exhibits, Messrs. H. Cannell and Sons had a rare collection of Cactus and decorative Dahlias; Messrs. Peed and Sons, cut flowers; Messrs. J. Laing and Sons, a large group of plants, cut flowers and fruits; Messrs. W. Cutbush and Son, a large collection of cut flowers, and the same from Mr. T. S. Ware; and from Messrs. W. Paul and Son, fruit trees in pots, Roses, fruit, &c.

A full prize list will be found in our advertisement columns.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 8.

It would appear as if all of the exhibitors on this occasion were fully cognizant of the fact that no other opportunity would be afforded them of displaying their various productions, either for certificates or medals, until October 13 next, there being no other meeting (for some unexplained cause) during September; whilst the great fruit show which opens on October 1 at the Crystal Palace is apparently available in the competitive classes for fruits only. If, as at the last fruit show, no awards or recognition of any kind be given to non-competitive exhibits of fruit, or any notice of or encouragement given to floral productions at the Crystal Palace, the purposes and objects of the various committees are for the time being neutralised. Notes have appeared lately in the various horticultural weeklies with reference to the blank that now occurs in the meetings for the ensuing five weeks, and it is hoped the same will have the desired effect before or when another year's arrangements are drafted. The show of Tuesday last was a most noteworthy one in every respect, and well sustained the prestige of the society. Autumnal flowers were grand, making a most imposing display. Gladioli—notably those from Cambridge—were specially fine; a finer exhibit than this one has not been seen for a long time. The varieties were of the best and the spikes were in the pink of condition. Dahlias came from the best known growers and breeders, these alone making a show of themselves. Here the most noteworthy exhibit of all was, beyond any doubt, that of Mr. Girdestone, who has done so much to popularise the single Dahlias by raising so many unique and distinct varieties. On this occasion this gentleman exhibited forty-eight varieties, all standard kinds, of his own raising. These were tastefully set up in bunches of ten blooms each. Of other exhibits, that of the Messrs. Cheal and Sons was perhaps the most extensive. It embraced the best of the Cactus, pompon, and single sections, several promising new ones of the first being shown. From Mr. Chas. Turner came a very choice set of pompons, which included some new and quite distinct kinds. Messrs. Keynes, Williams, and Co. had new Cactus varieties of great promise, whilst a large display was made by Mr. T. S. Ware. Messrs. Jones and Son, of Shrewsbury, had a decorative display, a part of which was done in a tasteful manner. Both Mr. Mortimer and Mr. West showed Cactus and show Dahlias of the best quality. Late Lilies and kindred plants were again shown by Messrs. Wallace and Co., whilst early Chrysanthemums made their appearance.

Of the groups, by far the best, both from a cultural point of view and for taste in arrangement, came from Syon House Garden, under Mr. Wythes. This occasion made a beautiful display. The Narcissi were specially noteworthy, the examples of N. mixta, N. Mastersoniana, and N. Raftesiana being very fine. The award made to this exhibit was quite out of keeping with its merits. An attractive group of well-coloured Crotonts, chiefly small plants, came from a comparatively fresh exhibitor, Mr. Darnell. Orchids were excellent, being present in good numbers, both Messrs. Veitch and Sons and Messrs. Sander and Co. being well represented; several choice

things from both of these and other sources were to be seen.

Fruit, too, was staged in considerable quantity, Apples and Pears being the most prominent, as a matter of course. Of these, the continued interest shown in the prizes offered by Messrs. J. Veitch and Sons for the best flavoured varieties in season shows that a right chord was struck, and one which will prove of good service. Singular to say, on this occasion all of the prizes were taken by what are only, as a rule, deemed to be second-class kinds as regards flavour, climatic conditions and localities having a great influence beyond any doubt, for what in one district is of good quality may not always be so in another.

Orchid Committee.

First-class certificates were given to the following:—

ARACHANTHAE (RENANTHERA) LOWI.—This is an old and well-known species, which was discovered and introduced by Sir H. Low from Sarawak about the year 1845. There is no record of its ever having been certificated previously, although we have seen the racemes much longer and the flowers finer. The flowers are produced on racemes from 6 feet to 12 feet long at short intervals along the entire length. The sepals and petals are brown, mottled with yellow in front, yellow at the back; the lip yellow at the apex, shading to rose at the base; the two lowest flowers bright yellow. From Messrs. B. S. Williams and Son.

LÉLIO-CATTLEYA CLIVE.—A lovely hybrid, the result of crossing *Lelia* *prastana* and *Cattleya* *Dowiana*. The sepals and petals are deep rose, the broad front and side lobes of the lip crimson-purple, the throat showing the influence of *Cattleya Dowiana* by the yellow longitudinal lines intermixed with the crimson. A plant from the same cross was certificated as *L. Cattleya* broomfieldiana in August, 1894. Both were raised by Mr. Cookson, and the certificate was awarded on the present occasion.

LÉLIO-CATTLEYA CHARLES DARWINI.—This variety was exhibited in August last year, when it received an award of merit, the plant on that occasion only having one flower. It had now two flowers, and with increased strength has made wonderful improvement. It is the result of a cross between L. C. elegans var. Turneri and *Cattleya maxima*; the flower has the general appearance of L. C. elegans, but the sepals and petals are rounder and broader, in colour light rose-purple. The broad, undulated front lobe of the lip is brilliant amethyst-purple, the side lobes lighter, tipped with purple, with a suffusion of yellow towards the centre of the throat. It is very distinct and a fine addition to this class of plants. From Mr. C. J. Ingram, Godalming.

MILTONIA MORELIANA (Dulcote var.).—An extra fine form of the ar-robo-type variety, the broad sepals and petals deep in colour, while the lip is upwards of 3 inches across, rose-purple in colour, veined and suffused at the base with deep crimson-purple. From Mr. W. Cobb, Dulcote, Tunbridge Wells.

Awards of merit were given to the following:—

MILLARIAS STRIATA GRANDIFLORA.—A curious variety with greenish yellow petals, lined with brown. The sepals have a darker ground colour and lines than the petals, lip white in front, lined at the tip with purple, the side lobes having the lines more prominent and extending further towards the base. From Messrs. F. Sander and Co.

CATTLEYA EUPHRASIA.—Raised by Mr. Soden between *C. gigas* and *C. superba*, sepals and petals deep rose, lip crimson-purple, shading to yellow at the base. On the sides of the throat are two prominent yellow blotches, shading to white at the base, the centre being lined with purple. The plant bore a spike of three flowers. From Messrs. J. Veitch and Sons.

CATTLEYA BICOLOR VAR. LEWISI.—A distinct variety with pale green sepals and petals, front half of the lip white, the basal part rose-purple. From Mr. E. Ashworth, Harefield Hall.

THE GARDEN.

LÉLIO-CATTLEYA BRYAN.—The result of crossing *Cattleya Gaskelliana* and *Lelia crispa*. The sepals and petals were broad and of good substance, rosy lilac in colour. The front portion of the lip is purple, margined with rose, the upper lobes rose, shading to yellow in the centre, with numerous purple lines at the base. The plant bore two flowers. From Mr. N. Cookson.

LÉLIO-CATTLEYA ELEGANS OWENII.—A fine form belonging to the Turneri section. It has a somewhat narrow, finely-coloured lip, crimson-purple in front, shading to white at the base. The sepals and petals are rosy purple, of good form and substance. The cut raceme bore eight flowers. From Mr. T. Statter, Stand Hall, Manchester.

Mr. H. Ballantine, gardener to Baron Schroeder, had a beautifully grown plant of *Sophro-Cattleya* Veitchii, a distinct and beautiful hybrid, the result of crossing *Sophronitis grandiflora* and *Lelia-Cattleya elegans*.

The sepals and petals and front of the lip are bright cerise, in the centre of the lip is a small disc of crimson, which shades into the throat to bright lemon-yellow. Messrs. J. Veitch and Sons were given a silver Flora medal for a fine group, prominent in this being a fine plant of *Lelia-Cattleya Nysa* with four flowers, and a piece of *L. C. calostiglossa* ignea, superior to the type in its richly-coloured lip (certified last year). *Cypripedium acaule* superbum was well represented by a plant with five flowers. *O. Bryoniae* (middletonii), *C. Bosci* (crossed with *Sodenii candidum*) has white sepals and petals, shaded with pale green lip white, spotted on the inside with brown. Two fine plants of *Odontoglossum bicolor* album, with twelve and fourteen flowers respectively; *Lelia monophylla*, with upwards of twenty flowers, and a fine plant of the lovely *Sobralia Veitchii* were also shown here. Messrs. B. S. Williams and Son were awarded a silver Banksian medal for a small group consisting of several forms of *hybrid Cypripediums*, *Angraecum citratum*, with two spikes of its creamy white flowers; *Pescatoria Klachororum*, P. Lehmanni, one of the most distinct of the genus; a fine plant of *Oncidium dasylepis*, with three spikes of bloom, and a healthy plant with three flowers of *Pachystoma Thomsonianum*. Messrs. F. Sander and Co. sent a small group, in the centre of which was a finely flowered species of *Zygopetalum Gautieri*, with upwards of thirty flowers. A fine plant of *Cattleya granulosa*, *Habenaria militaris*, with six spikes; *Coleogyne Macrolitzi* (certified last meeting), two finely-flowered masses of sweet-scented *Burlingtonia fragrans*, and a new hybrid *Cypripedium* named C. Rothwellianum, the result of a cross between C. Argus and C. Stonet were also included in this group. Mr. Cookson sent two plants of *Cattleya Hardyi* to confirm the parentage of the interesting natural hybrid. Mr. Welbore Ellis, Donington, *Stanhopea ovalifolia* and a fine plant of the new *Odontoglossum* (certified), some petals brown, margined and marbled with yellow, lip yellow at the tip and on the side lobes, with a large brown blotch in the centre. Mr. E. Ashworth showed cut flowers of some fine forms of *Cattleya Gaskelliana*, *Cattleya Hardyi* var. *marmorata*, a fine flower of the original type of *Cattleya calostiglossa*, a spike of the ordinary type of *Cattleya bicolor*, *Cypripedium insigne* Ballae, one of the yellow section in the way of C. insigne Ernsta and a grand spike of the natural hybrid *Dendrobium Læcum*, a distinct and lovely addition supposed to be a cross between D. *Phalaenopsis* and D. *superbum*. Mr. W. Cobb sent a finely flowered plant of *Odontoglossum Oerstedii majus*, the flowers large and of good substance.

Floral Committee.

First-class certificates were awarded to—

ACIDANTHAEA BICOLOR.—A bulbous plant with some resemblance to a *Gladiolus*, but yet quite distinct. The growth is from 2 feet to 3 feet in height, the leafage pale green, and the flowers, which are singularly distinct and handsome, are creamy white, with touches of chocolate-red at

the base of each lobe, running upwards nearly half of the length through the centre of each; the lobes are broad and the contour of the flower good, each blossom being supported on foot-stalks fully 6 inches in length, and in spikes of two or more expanded flowers. From Messrs. J. Veitch and Sons.

ARALIA TRILoba.—A very promising fine-leaved plant and one quite distinct in character. The leaves are each from 1 foot to 18 inches in length, the sub-division being quite at the base, each lobe being an inch or more in width. The plant is of an erect and short-jointed habit, the colour of a light green throughout. From Mr. William Bull.

LELIA CARMINE GEM. to which when shown in a cut state at the previous meeting an award of merit was voted, and now shown as plants, by which it can at once be seen that the habit is a great improvement on the old L. *cardinalis*, being much more branching and compact. The flower is of a bronzy green, with a pale yellow variegation; the leaves are of good length, and the individual flowers last a long time, whilst the colour, well defined by its name, is a decided acquisition. From Sir Trevor Lawrence's collection (Mr. Bain, gardener).

POLYPODIUM NEPHRAGMUM CRETATUM.—A distinctly crested form of somewhat large growth, with long arching fronds from 2 feet to 3 feet in length, with the pinnae not too densely set thereon and an inch or so in width and crested at the points. The growth appears to be hard and wiry looking. From Messrs. J. Veitch and Sons.

Awards of merit were voted to—

CAMPANTHUS BALCHINIANUS.—A hybrid Bell-flower (raised by the exhibitors) between *C. fragilis* and *C. isocoma alba*. It is a beautiful and quite unique plant, its chief characteristic being the profuse variegation, which is of a creamy white and pale green, the former greatly predominating. The habit if left to itself would assume a drooping form, thus enhancing its value as a basket plant. The three plants shown were lightly trained. The colour of the flowers is of a soft tint of pale blue, these being from 1 inch to 1½ inches across. A first-class certificate might have been awarded. From Messrs. W. Balchin and Sons, Hassocks and Brighton.

DRACENA WARRENI.—A hybrid variety of sturdy growth, and the best beyond a doubt of the narrow-leaved section, as represented by *D. elegantissima*. The leaf-growth is longer than that in *D. elegantissima*, also more graceful and drooping in habit; the colour is of a bronzy red, with the petioles of a lighter or brighter colour. The examples shown were well-grown compact plants in small pots, but the artificial polishing of the foliage with oil was not at all commendable. From Mr. Offer, The Gardens, Handsworth Park, Sussex.

ADIANTUM CAPILLUS-VENERIS CUNIFORME.—A very distinct and graceful Fern beyond any question, but of a somewhat fragile appearance, this being possibly due to having been grown in too much heat. The fronds are from 1 foot to 1 foot 6 inches long, the rachis and pinnae in proportion; the pinnae smaller than in *A. capillus-veneris* and partially bi-divided. It should prove an excellent basket Fern. From Lady E. Foley, Stoke Edith (gardener, Mr. A. Ward).

BRIGONIA ODORATA ROSEA FL. PL.—Quite a gem in its section, tuberous, but quite distinct. The growth has a suspicion of affinity with *B. socotrana*, but is more erect and the foliage of greater substance. The flowers—borne on stout, erect spikes well above the branching growth and foliage—are each quite 5 inches across, of a soft rose pink, and very double, as well as of good form. By its name fragrance is denoted, and it is clearly detected, the odour not unlike that of the Balsam. From Sir Trevor Lawrence.

HELIANTHUS ANNUUS WANTAGE STAR.—The result of crossing the ordinary Sunflower with Sutton's Dwarf Miniature. The flowers, which are well formed, are each about 7 inches across, a double row of guard petals prevailing; the colour is a pale golden yellow, with a dark disc of medium size. The habit is branching and the height

approaching 8 feet. From Lord Lockinge, Wantage (gardener, Mr. Fyfe).

GLADIOLUS APOLLO.—A pale terra-cotta pink, of large size and the finest form, with crimson markings at the base. From Messrs. Burrell and Co., Cambridge.

GLADIOLUS PAINTED LADY.—A bizarre-coloured variety, the ground colour of a creamy tint, with pink and crimson splashes, both flowers and spike being large. From Messrs. Burrell and Co.

GLADIOLUS ALICIA.—A clear French white, with pencilings of slate at the base, the flowers of large size and the spike extra fine. From Messrs. Burrell and Co.

DAHLIA (CACTUS) IONA.—A bright shade of terra-cotta, of good form and full. From Mr. Turner.

DAHLIA (CACTUS) HARRY STREDWICK.—A dark virous crimson, very rich, the petals long, curled or twisted; a distinct and true Cactus variety. From Messrs. J. Cheal and Sons.

DAHLIA (CACTUS) MRS. GORDON SLOANE.—A deep reddish carmine, a novel colour, and an acquisition to its class. From Messrs. J. Cheal and Sons.

DAHLIA (CACTUS) MRS. LEOPOLD SEYMOUR.—A marked improvement on Mrs. Barthes, the pink shading being brighter and the yellow at base of a deeper tint. From Messrs. J. Cheal and Sons.

DAHLIA (CACTUS) STARFLY.—A very bright orange-scarlet of true Cactus character, the flowers of full size and the petals narrow, being produced well above the foliage. From Messrs. Keynes, Williams and Co.

DAHLIA (CACTUS) CINDERELLA.—A violet purple, very marked in colour, and a great advance on Purple Prince or Earl of Pembroke; quite distinct. From Messrs. Keynes, Williams and Co.

DAHLIA (CACTUS) FLOSSIE.—A combination of orange and salmon shades, very bright and distinct. Messrs. Keynes, Williams and Co.

DAHLIA (CACTUS) CYCLE.—A bright rose scarlet, of medium size, and true Cactus form. Messrs. Keynes, Williams and Co.

DAHLIA (CACTUS) FANTASY.—A decidedly distinct and very useful decorative variety, with narrow curled florets, the flowers being more erect than usual and the stems stout, the colour a pale scarlet. Messrs. Burrell and Co.

DAHLIA (SHOW) DANIEL CORNISH.—A reddish shade of terra-cotta, very full and of fine form. Mr. West, Brentwood, Essex.

DAHLIA (POMPON) DAGMAR.—A crimson maroon, rich in colour, the form good. Mr. C. Turner.

DAHLIA (POMPON) PHRYNE.—Golden-yellow, tipped with bronzy red, good form. Mr. Charles Turner.

DAHLIA (POMPON) GUINEVERE.—Deep orange, tipped somewhat heavily with scarlet, fine and distinct variety. Mr. C. Turner.

DAHLIA (POMPON) ADRIENNE.—A clouded red, with golden tips, the petals reflexed when fully developed. Mr. C. Turner.

DAHLIA (SINGLE) TRILEY.—A dark velvety crimson, tipped with white, very novel and distinct; quite an acquisition. Mr. T. W. Girdlestone.

DAHLIA (SINGLE) JEANNETTE.—With reddish orange margins and white towards centre of petals, flowers large and showy, fine in form also. Mr. T. W. Girdlestone.

DAHLIA (SINGLE) POLLY ECCLES.—A pale terra-cotta, with crimson base, very choice and quite distinct; a lustrous sheen suffusing the flowers. Mr. T. W. Girdlestone.

DAHLIA (SINGLE) FOLLY.—Carmine-rose, white tips, deeper colour at edge, very bright and effective. Mr. T. W. Girdlestone.

DAHLIA (SINGLE) NAOMI TIGHE.—A deep golden yellow, with orange at base, the best of its colour and fine in form. Mr. T. W. Girdlestone.

Dahlia in great variety were the principal flowers shown, and these were staged both in the exhibition style, and in vases and bouquets and trophies, to show their value in decoration. Of the former order, a magnificent exhibit came

from Messrs. Cheal and Sons, Crawley, comprising perfect examples of all the best varieties of pompon, single, Cactus, and the charming single Cactus kinds. The staging was throughout admirable, and the condition of the blooms excellent. Among the pompons were fine bunches of Little Darkie, Geo. Brinckman, Phoebe, Janet, old, but very lovely terra-cotta variety; Fabio, with yellow petals tipped with crimson, very striking; and Sunny Daybreak, a pretty yellow and chocolate flower of good form. The singles included Eclipse, a fine metallic mauve; Miss Constance, white and lilac; Mayville, white, striped with purple crimson; and Miss Roberta, a very fine yellow of good form. The Cactus varieties were exceptionally fine from the bunches being remarkably even, and all of fine quality. The following may be specially noted: Miss Kingsley Foster, a beautiful new bronze yellow; May Beck, salmon-pink; Mrs. Leopold Seymour, yellow and rose, very fine petals; Mrs. Wilson Noble, rich rose salmon; and Harmony, a very fine bunch (silver-gilt Banksian). A large collection of single Dahlias, perfect in condition, splendid in colour, and comprising the most beautiful varieties, was shown by Mr. T. W. Girdlestone, Sunningdale, Berks. The following were remarkably good: Svengali, a splendidly formed velvety maroon; Trilly, a strikingly beautiful variety of the deepest crimson, shading through carmine to white at the tips of the ray florets; Orange Girl, a dazzling flower, shaded orange, scarlet and softest primrose; Mauve Satin, a flower of great delicacy; Dona Casilda, a splendid dull mauve and terra-cotta, with crimson ring; Naomi Tighe, a rich deep yellow with chocolate ring; Folly, a very brilliant rose colour shading almost white; Polly Eccles, a superbly-formed bronzo-yellow; and Jeannette, white, bordered with orange-scarlet (silver Banksian). Another collection of Dahlias (Cactus, pompon and show varieties) came from Mr. J. T. West, Tower Hill, Brentwood. The last-named section was the most numerously represented, and included Robert Fyfe, a shape divided into a great central, pale yellow, with brownish tinted reverse, a cluster of pretty small lilacs; Victoria, a fine dark ruddy yellow; Daniel Cornish, John Hickling, Glore de Lyon, Nellie Cromond, and the ever popular Mrs. Gladstone. Amongst the pompons were good bunches of Erica, a nice yellow; a very attractive seedling somewhat resembling Lilian, but deeper in colour; Mary Kirk, Donovan, a charming lilac and white; and Sunshine, a well-formed scarlet. The best of the Cactus section were Fusilier, Lady Penzance, Gloriosa, Matchless and Miss A. Nightingale (silver Flora). Yet another excellent collection of Dahlias—this time only Cactus and show varieties—was shown by Mr. S. Mortimer, Farmham. The best Cactus flowers were the showy Miss Nightingale, Harmony, Matchless, Fusilier, Gloriosa, Mayor Haskins, very well coloured; and Mrs. Barnes. The show varieties were particularly good, all being in excellent form, with every petal intact and with close, hard centres (silver-gilt Banksian). A large group of cut Dahlias arranged in bouquets, stands, pyramids, and screens was shown by Messrs. H. Jones and Son, Shrewsbury. The exhibit was effective and very showy, but gave evidence of great hurry in construction; lack of finish being a very patent fault in the designs. The bouquets were slightly unbalanced and over-crowded, but useful, as showing that Dahlias are quite possible for this purpose if skillfully handled. The best was one composed of 100 stems. The pyramidal arrangement of mixed Cactus blooms was perhaps the most successful series (silver Banksian medal). Messrs. Keynes, Williams and Co., Salisbury, sent a box of new Cactus Dahlias. The best were Starfish, a really fine variety, orange-scarlet in colour, with very narrow, pointed petals, and growing on long, stiff stems; Flossette, a pretty deep salmon and yellow, of good Cactus form; Cycle, a superb flower of the colour of Bertha Mawley. A few varieties of Dahlias were shown by Mr. Chas. Turner, The Nurseries,

Slough. The following pompons were good: Ganymede, Guinevere, Orpheus, Purity, and Phryne.

A magnificent collection of Gladioli was staged by Messrs. Burrell and Co., Cambridge. The spikes were splendidly flowered and perfectly fresh. Good varieties were: Painted Lady, soft lilac, with deeper coloured spikes; Alicia, white, with purple in the throat; Victor, a grand variety, large salmon flowers, shading to scarlet; Apollo, a very charming flesh-coloured flower; and Carmen, soft pink and primrose (silver-gilt Flora). A nice group of cut flowers including some very good Marigolds came from Mr. Walter Salmon, Elder Road, West Norwood (bronze Flora). Messrs. R. Wallace and Co., Colchester, sent a large and very fragrant group of Gladioli and Lilies. Among the latter were good examples of L. speciosum Melpomene and L. Henryi (silver Flora medal); Messrs. Young and Dobinson, Stevenage, Herts, sent a group of miscellaneous cut flowers. Messrs. Dobbie and Co., Rothesay, sent a large collection of Aster and Marigolds, the former including Dobbie's Giant Comet, Victoria, and the Quilled Globe sections, each lot containing excellent flowers. The Marigolds were large, and brilliant in colour (silver Banksian). Messrs. Laing and Sons, Forest Hill, staged an effective group of fine foliaged plants with some very good Streptocarpus, and two beautiful plants of Odontoglossum grande. The group included well coloured specimens of Croton Gold Mine, C. Courteae, C. Calandrinia, Jules Pieri, C. Illustris, Begonia Attraction, and B. arthuri Maite. The group was well staged (silver Flora). A handsome group, the best in the show, was that staged by Mr. Wythes of Spyon House. The arrangement was carried out with excellent judgment, and in perfect taste. The material was all of first-class quality, and comprised magnificent Nepenthes, splendidly coloured Crotons, Dracenas, and Caladiums, lightened with various kinds of Ferns and Panicums. The best of the Nepenthes were N. mixta, bearing some superb pitchers; N. Morganiae, very highly coloured; a grand plant of N. Masteriana, N. Curtisia superba, N. Hookeriana elongata, and N. Rafflesiana. A silver Flora medal was given—an award totally inadequate to the merits of the group. A silver gilt Banksian medal was given to Mr. Darnell, Stamford Hill, for a group of Crotons, all healthy, well-grown plants, beautifully coloured. Mr. T. S. Ware, of Tottenham, gained a silver Banksian medal for a pretty group of early Chrysanthemums; Herbert Barnes, and the white Mme. De Grange were in good condition. Mr. J. K. Witty, Nunhead Cemetery, also staged a group of Chrysanthemums, many of the blooms being remarkably good considering the time of the year (silver Banksian medal). Mr. C. Holden, of Hinckley, showed several varieties of Ivy-leaved Pelargoniums. A small group of stave plants was sent by Mr. F. Bissett, Cassi Wood Towers, Highgate (silver Banksian medal). An excellent group of Cactus and decorative Dahlias was shown by Mr. T. S. Ware, Tottenham. The flowers were fresh and in good condition (silver Flora). Messrs. Veitch and Sons sent some heavily berried branches of Cratagia Pyracantha Lalandii, a highly effective shrub. Mrs. W. Salmon, of Norwood, gained a silver Banksian medal for some prettily arranged epiphytes, the principal flowers used being yellow Marguerites.

Fruit Committee.

There was a fair quantity of fruit before this committee. Vegetables were scarce, but a representative collection of well-grown Cabbage came from Messrs. Carter, and certainly deserved an award. Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, sent forty-eight dishes of fruit. The Peaches and Nectarines were specially fine. Princess of Wales, Late Admirable, Teton de Venus, Royal George and Violette Hatice Peaches were grandly coloured, the best Nectarines being Pine apple, Rivers' Orange and Victoria. Pears were mostly good, the most noticeable being Brockworth Park, Josephine de

Malines, Vicar of Winkfield and Gleu Morereau. Some excellent Waller Ribston, Golden Reinette, Beauty of Plants, and Yorkshire Beauty Apples, with Plums, were also staged. We fail to see what good results from showing very late Pears and Apples so early in the season (silver Knightian medal). Messrs. Laing and Sons, Forest Hill, staged 100 dishes of Apples and Pears, and here the same remarks apply with regard to fruit in season. There were some thirty dishes of Pears, Napoleon, Bourré Bachetel, Bourré Capiaumont, Bourré Clairageau, Bourré Diel and Bourré d'Amanlis being very fine. The Apples were good, such kinds as Bismarck, Cellini and Grenadier being large, whilst good dessert kinds were Ribston, King of the Pippins, Worcester Pearmain, Yellow Ingestre and Duchess Favourite (silver Knightian medal). The chairman sent a seedling Orange raised from a fruit produced on the oldest tree in France from Mr. Hanbury's celebrated gardens. A new seedling Grape, contributed by Mr. Shingler, gardener to Lord Hastings, and named Lady Hastings, appeared to be quite distinct in character. It was said to be a sport from Madingley Court, but with a roundish berry, more like Black Muscat, with a thicker skin, but of true Muscat flavour. It is evidently a good keeper. The committee requested that it be set again to the next seedling with more particulars as to parentage and cropping qualities. A seedling Apple was sent by Mr. Partridge, Seaton Toney, Norfolk. It is a pretty fruit, but of poor flavour. Mr. Crisp, Osbiston Gardens, Worksop, Mr. R. Ashton, Lathom House, Ormskirk, and Mr. Wythes, Syon House, Brentford, sent seedling Melons, which were passed.

Messrs. Laing and Sons also staged a good dish of Glenhurst Favourite Tomato. The Messrs. E. J. Sergeant and Co., Worthing, staged a collection of Aubergines in some half dozen varieties; one a fine dark black-red fruit, being sent for certificate. Rajah, Long Purple and Purple-Striped were also good. Messrs. Carter and Co., Holborn, staged thirty varieties of Cabbage and Coleworts, making an interesting exhibit. The heads were well grown and showed the various types as now grown. The Dwarf Nonpareil and Cocoa-nut were very good, also Mein's No. 1. Such kinds as Early Rainham, Winnigstide, Early York, Prize-taker and Sugarloaf were of compact growth. Various kinds of Kohl Rabi were also staged. Messrs. Young and Dobinson staged their new Eclipse Tomato in quantity; this received an award in July. A new Tomato (Ronalds' Golden Queen) was sent by Mr. Ronalds, North Gate Nurseries, Chichester. Messrs. Cannell and Sons, Swanley, sent a Parsley named Eynsford Beauty, a nicely curled variety.

The classes for Apples and Pears—one dish of each, flavour being the chief point—were well filled. This competition shows how soils alter the character of fruits, as Worcester Pearmain was placed before Kerry Pippin, and Souvenir du Congrès before Bourré d'Amanlis. The award for Apples went to Mr. J. Powell, Islington House Gardens, Dorchester, for a fine dish of Bononi, an American variety of nice appearance; and to Mr. Herrin, Dropmore, for Worcester Pearmain. For Pears, Mr. Herrin was first with fine examples of Souvenir du Congrès, and Mr. Powell second with Bourré d'Amanlis.

The lecture on Gladioli, by Mr. Burrell, Cambridge, was read by the assistant secretary. The cultural portion was most interesting, more so on account of the noble bank of flowers staged by the lecturer. At the start Mr. Burrell stated that three papers had in a short time been given on this flower. He did not intend to go over the same ground. He would go first into the question of soil, and here he was at variance with many growers of Gladioli who advised a light or sandy soil; indeed, many thought these bulbs always required light soils. He had grown them in all kinds of soil, but preferred a somewhat heavy loam without sand, in which he obtained finer

blooms and with less disease; indeed, he maintained a much healthier stock than on light soils. He referred to the "gandavensis" section, as he found soil which suited these suited moist kinds. Doubtless he would be told excellent flowers had been produced in light soil, and he would agree that they could be produced in all kinds, but he had obtained the greatest success in a holding, well-drained soil in a warm situation. In the north where the rainfall was excessive a lighter soil might be necessary, and in all cases he was an advocate of free drainage. In comparing the various kinds of soil, he referred to Mr. Standish, who grew these bulbs largely at Bagshot, in Surrey, but with less success than M. Lemoine, at Nancy, the latter having a heavy soil. Another point closely connected with soil was manure. This he considered, most harmful. He preferred ground that had been manured for a previous crop. For Gladioli, he found ordinary stable manure alone or with an addition of a little bone-meal the best. He had used fish manure, but did not recommend it or liquid manure. He had mulched with straw manure, but could not say it was beneficial. He never watered in the hot summer of 1893, and this was the best season he ever had. The great heat and drought this year caused the plants to suffer. Up to the end of July they did grandly, but later on felt the drought, as did all the fish which require more moisture. The Gladioli required much less moisture at the start, and suffers much from heavy rains at certain seasons; hence the value of well-drained soil. Some growers advocated the raising of new types annually to check disease, and this point he went into, advising the growth of the hybrids, as these are less subject to disease than others. The early forms of Gladioli and the Nanceianus section were also referred to.

Mr. D'Orbigny expressed his pleasure in listening to the lecture, which was full of useful hints. He thoroughly agreed with the ideas as to soils and manures. New corms or bulbs yearly were equally as important as the soil.

Gardeners' Royal Benevolent Institution.—It is gratifying to learn that the kindness of Sir Greville Smyth, Bart., and Mr. Francis Tagart, who threw open to the public their respective gardens and grounds at Ashton Court and Old Sneed Park a few days ago, has resulted in the substantial addition of £20 to the funds of the Bristol and Bath Auxiliary of the Gardeners' Royal Benevolent Institution. This institution, which was founded as long ago as 1838, is intended to relieve aged and infirm gardeners and their widows. It grants substantial pensions to such persons. The local auxiliary was formed as recently as 1893 in order to promote a knowledge of the institution's work. It is small and depends largely upon collections and subscriptions for funds. The collections at the various flower shows this year have been fairly successful, but the number of pensions granted by the institution is such that the coffers are never very full, or even as full as might be wished.

The weather in West Herts.—Since the beginning of the month the day temperatures have been, as a rule, low, while the nights, on the other hand, have proved warm for the time of year, the lowest reading registered by the thermometer exposed on the lawn being 48°. At 2 feet deep the ground is now about 2°, and at 1 foot deep 3°, warmer than is reasonable. During the last eleven days there has been only one day without rain, the total fall for this period amounting to 2½ inches, which is little short of the average for the whole month. The wettest day was the 4th inst., but the heaviest downpour occurred during a thunderstorm on the night of the 8th, when the rain fell for five minutes at the rate of 2 inches an hour, and for ten minutes at the average rate of 1½ inches an hour. The winds have been light, and principally from some point between north and east. There has been little sunshine as yet this month, the mean record being less than 1½ hours a day.—E. M., Berkhamsted.

NOTES OF THE WEEK.

Jacobinia magnifica var. Pohliana.—Quite recently at Kew we noted a nice group of flowering plants of this handsome Brazilian shrub in pots. The large heads of pleasing pink flowers formed a great attraction.

Gladiolus Victor.—This was very fine at the Drill Hall on Tuesday, the flowers of intense salmon-scarlet and delicately flaked white. The individual blossoms are of immense size, the spike massive and compact.

Zinnias.—Some large beds devoted to these at Chiswick were very showy recently, the flowers varied in colour and large. Benefited, too, by the abundant rains, they were as fresh and bright as it is possible for such things to be.

Asparagus setaceus.—This very distinct species from South Africa is now flowering in the Begonia house at Kew. The growth is erect, the leaves small and numerous, the plant producing endless clusters of miniature white blossoms.

Lilium speciosum Opal.—This is an American novelty of a year or two ago, which received more praise than it deserved. Indeed, it is so closely akin to the Dutch L. s. punctatum, that, so far as its flowers alone are concerned, it may be regarded as almost identical. A coloured plate of this Lily was given in *THE GARDEN* of February 3, 1894 (p. 90).—E. J.

Rudbeckia maxima.—This is very distinct both in the manner of growth as also the ovate glaucous, stem-clasping leaves. The plant attains to some 8 feet high, the ray florets yellow and drooping. It is in foliage alone an effective species, and would make a handsome group among shrubs or similar plants. A typical example is now flowering at Kew.

Cotoneaster horizontalis.—Spreading right and left to the extent of several feet each way and loaded with its scarlet berries, large examples of this species present an exceptional appearance. It is too flat and stiff to be beautiful unless associated with large flat surfaces of rock. Again where the rock possesses a slightly ascending form such a plant may be used with success.

Acidanthera bicolor.—Messrs. Veitch and Sons were the exhibitors on Tuesday last of a number of cut spikes of this rare plant, the flowers of which by their shape bear some resemblance to those of a small Tigridia. The flowers, apparently produced somewhat freely on slightly arching spikes, are in colour creamy white with a purple base—altogether a very striking combination.

Nerine Fothergillii major.—A number of out spikes of these little grown plants was shown on Tuesday at the Drill Hall by Mr. John Crook, Forde Abbey. When one considers the brilliant effect of a few masses of these at this season and the ease with which they are grown and flowered, it is really a wonder they are not universally cultivated wherever a greenhouse exists.

Corydalis clavulata.—An excellent idea of what may be done even with a British annual has been fully illustrated by this plant at the museum end of the rock garden at Kew. Here rambling of its own will, and by means of its tendrils clinging to the purple Heather among which it is growing, the above is decidedly neat and pleasing, with its elegant pinnate leaves and pale straw coloured blossoms.

Succowia Galpinii.—Without the intense deep, rich orange flower-heads, one could be pardoned for regarding this remarkable plant as allied to that section of Echeverias with pulverulent leaves; but a closer inspection, as well as the large buds and distinct heads of bloom, all tend to render this plant of somewhat remarkable habit. Several plants of it have been flowering of late in the No. 7 range at Kew, where it is certainly among the most striking objects in flower.

Campanula Balchinensis.—An award of merit was granted to a Campanula on Tuesday

bearing the above name from Messrs. Balchin, of Hoxhock. The feature of the plant is its pretty variegated foliage that renders it at once attractive, though this was probably heightened by the plants having been grown under glass. It may be best described as a bright silver variegated form of *Campanula garganica birecta*, as a greenhouse plant or for hanging baskets it will prove valuable.

Erodium guttatum.—This is a pretty as well as very distinct species that is scarcely possible to become confused with any other. The clear white of the petals is so very marked in this kind as well as the large blotch on two of the upper petals that it is at once recognised. In most of the dwarf species there is a suffusion of colour, while in this one the petals are quite pure save the blotch already noted and light pink veins. In its habit of growth it is much like several others.

Mesagena cordifolia purpurea.—From some unexplained cause a large established clump of this handsome flowering plant that failed to bloom in the spring of the present year is now flowering beautifully. Its richly coloured cymes at the present time are strikingly effective in the garden. It is strange, too, that the plant so mysteriously affected in the past spring—though perfectly healthy—should have produced its flowers at this time, and we shall watch with interest its behaviour in the coming year.

Lobelia Gerardii.—Among the herbaceous Lobelias this is a very showy and attractive plant with its erect spikes somewhat densely set with flowers of a clear azure blue shade. The plant is probably a hybrid of the *sylphitica* strain which delights in plenty of moisture while growing. *L. sylphitica* is of more vigorous constitution and harder than the *Cardinalis* Lobelia, and in some localities will stand out all the winter near the margin of a pond or similar place. It is in these moist positions that such things are so pleasing and effective when in bloom.

Hybrid Sunflowers.—A series of these, the result of crossing *Helianthus annuus* and *H. cucumerifolius*, were exhibited at the Drill Hall on Tuesday last, one of the forms being decided gains for the garden. One named Wantage Star was especially good, the flowers having more the form of *H. cucumerifolius* with greater size of floret. Another called Lockinge Favourite, a more rounded flower, was excellent in colour and good in form. In the latter the disc was somewhat larger though by no means disproportionate. By still further crossing the two forms named some beautiful and useful varieties would doubtless result.

Rudbeckia laciniata fl.-pl.—Under this name at the Drill Hall on Tuesday the Messrs. Wallace had cut flowers of this novelty among perennials. At first sight the flowers may easily be mistaken for a miniature double Sunflower of the Bouquet d'Or type, but the deeply cut petals renders it at once quite distinct. From quite puny little bits put out in the spring of the present year a growth of about 7 feet has been made, the plant towering profusely for some time. Judging by the description given by "W. E. G." p. 134 of THE GARDEN, the above appears to be identical with Rudbeckia Golden Glow. As the plant grows freely from the base in Messrs. Wallace's case, it would be interesting to learn whether the new-comer is a double form of Rudbeckia triola.

The Japanese Wineberry.—The fruits produced during the present year by this Bramble are no criterion of their usual size and value in an ordinary year. The drought has had such an effect on the plants that the berries, though numerous, have been less than half the size of those borne by the same bushes in the summer of 1895. Those that I tasted last year were palatable, both in their natural state and when cooked. I see no reason why, as "G. P." (p. 140) suggests, they should not be used for jam-making. Personally, I prefer the flavour of the Wineberry to that of the Raspberry. As a decorative plant there can

be no question as to its value, and its absolute hardiness is a great point in its favour.—S. W. F.

Browallia speciosa major.—This is a really beautiful and most valuable plant for the decoration of the greenhouse in summer and autumn, and has been much admired by all who have seen it here in full and continuous bloom for the last two months with every likelihood of its continuing to produce its conspicuously handsome flowers for some weeks to come. Its flowers when they open are of a lovely deep shade of blue, and as the flower ages it increases greatly in size and pales much in colour, so that on the same plant you may see several shades of colour as well as several sizes of flower. It is easily increased from seed, which it sets freely. Its name among French growers is the *Myosotis* of the Antilles.—W. E. GUMBLETON.

Lobelia Carmine Gem.—This was exhibited at the Drill Hall on Tuesday by Sir Trevor Lawrence, who brought in full bloom three grand plants of it lifted from the open ground. It was pleasing to note that the plants had not in the least suffered by the lifting, as the brilliant spikes of bloom stood perfectly fresh and erect without support of any kind. The plant possesses a bushy and freely branched habit, and clearly belongs to the *L. cardinalis* section of these beautiful autumn flowers, and not to the *sylphitica* group, as we imagined, when a fortnight ago a spike or two only was shown. The full height of the plants in their pots is less than 3 feet, and judging by the numerous buds yet to open, they will be gay for weeks to come.

Double Begonias in Sussex.—We have received from Mr. Geeson, of Cowdray Park Gardens, a superb series of double Begonias, which are very beautiful, and some soft in colour. They are certainly wonderful results of raising these flowers. Occasionally the form is good, something like the French Hollyhock with the guard petals, and some of the yellows are distinct in colour, with salmon-coloured outer petals. One is a very pretty delicate rose, with Peach-like petals; the salmon colours are perhaps the most distinct and striking of all. The very wet and warm September suits these flowers well, but we doubt if they in the average of years are as precious for our gardens as really hardy plants like Roses and Lilies, which are not so apt to be affected by the season.

Iris tenax.—In the article on "Beadle Iris" by "J. C. L." in a recent issue, I was surprised to see that *Iris tenax* is so seldom found established in English gardens. I have had two of these plants, which I believe to be true, though I may be mistaken, for years past, and they have flowered with me abundantly for several years, and are now seeding. For some years I could not get them to flower at all, though they managed to exist, but on putting them in a sheltered position at the back of a rockery in rich free-soil that *Primula camtschatica* delights in, they have done well, and are now quite (for them) large plants. I am also surprised to hear that *Iris cristata* flowers at all in a sand bed with a cemented bottom. Mine, planted in a bed with *Iris Kampferi*, where it reaches the roots from a Lily tuber, bloom well every year, and until I moved them there they never showed a sign of flower. *Iris stylosa* with moths a sunny border and good drainage with moisture.—F. M. BURTON, Highfield, Gainsborough.

Double-flowered tuberous Begonias.—I send you from your paper that you sometimes keep a corner for Begonias. I send you a few blooms by to-night's post, and I hope they will reach you in good order. My house plants are now past their blooming time, but out of doors I have thousands of seedlings, which are now in fine bloom. I grow about 15,000 seedlings annually. All the Begonias I have are double-flowered, best in their blooms on upright flower-stems. Droopier have a short life here. Some of the plants from which the named sorts have been cut have been blooming in the houses since the end of May. The flowers

from the seedlings were gathered in a few minutes without anything like an organised search for the best things; indeed, the mass of bloom is so great that it is no easy task to pick out the finest examples. Everything sent was raised here—those from the houses last year, and those from the beds this year—from seed sown in January.—REV. EDWIN LASCELLES, Newton St. Lo, Bristol.

** Flowers very double, and the colours exceedingly rich and varied.—ED.

Campanula Profusion.—At the R.H.S. meeting on the 25th ult. a charming hybrid Campanula exhibited by Mr. E. H. Jenkins, unanimously gained an award of merit. Growing in a 6-inch pot, the plant in question, only 6 inches high and about 15 inches across, was simply a dense mass of its pretty pale blue flowers. Curiously enough, it is one of several seedlings, all of which have come blue from a cross between *C. isophylla alba* and *C. carpatica alba*. That both the seed and pollen parents should have white flowers and the offspring all have blue flowers and of smaller size was a subject of comment by the floral committee when the plant was exhibited; the fact, however, has been previously explained in THE GARDEN (p. 19, Aug. 1, 1896). Apart, however, from its prettiness, this beautiful hybrid will prove an acquisition for both border and rock gardens, coming, as it does, when almost all else have finished their flowering. For August and September it forms one of the brightest pictures imaginable, and, continuing for weeks to produce an almost endless supply of its flowers, suggested the above descriptive name.

Tropaeolum speciosum.—It is a curious fact that this beautiful climber in some soils and positions will grow with the greatest ease, while in others a treatment will induce it to grow freely. Many people have given up considerable trouble and expense in the endeavour to establish it without success, while with others it grows like a weed. A case in point occurs at Kew, where, after several unsuccessful attempts, it has been established in the rock garden, on the upper part and at the base of a shrub. A few weeks ago we noted that some 9 feet of growth had been made, and by its freedom it promises to become established, as it was then freely showing its richly coloured buds. So desirable a plant is worth much in the garden or among shrubs, and by reason of its attractive flowers that come so freely in autumn, no pains should be spared to make it a success. Those who have absolutely failed to establish this plant in the past may be glad to know that if its roots are laid on an inch of coco-nut fibre and covered with the same to an equal depth before putting in the soil the plant will often start into growth.

Names of plants.—*H. P. M.*—*Helianthemum rotundifolium*; *H. E. T.*—*the Sea Aster* (*Aster tripinnatus*); *J. N.*—1, *seed*; *the Saffron* (*Crocus sativus*); *Cr. gl.*—*the Common Crocus* (*Crocus officinalis*); *Cr. oblongifolius*; 3, *Asphodelus mucronata*; 4, *Begonia* sp.; 5, *Corniola glandulosa*; 6, *Scleranthus* sp.; 7, *the Artillery Plant* (*Pilea serpylloides*).—*Kosteletzky*, 1, *Lilium nepalense*; 2, a poor form of *Oenothera biennis*; 3, *Streptocarpus*, not equal to many now in cultivation.—*John Mathison*.—*Cr. gl.*—*pinnatifolius*; 4, *W. A. G.*—*the Wayfarer Tree* (*Crataegus laevigata*); 5, *the Small-leaved Hawthorn* (*Crataegus monogyna*); 6, *variegata*; 2, *Centranthus ruber*; 3, *Erica speciosa*; 4, *Kerria japonica* fl.; 5, *Cytisus Pyrenaicus*; 6, *Scleranthus japonica*.—*Rev. J. G. Anderson*.—*Populus nigra*.—*Evelyn*.—*Retusa heterolepis*.

Names of fruit.—*Wm. Clarke*.—*Pear Uvedale's St. German*.

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No. 1296. SATURDAY, September 19, 1896. Vol. L

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE.—Shakespeare.

ORCHARD AND FRUIT GARDEN.

ORCHARD CHERRIES.

GIVEN a suitable soil and site, care also being taken to prevent birds from taking the fruit, orchard-grown Cherries are a very remunerative crop for the farmer or small holder. In this district large quantities are grown, and are likely to be more so in the future. For instance, this season the returns to the grower were from £1 to 26s. for a basket of 62 lbs., these prices being quite high enough to encourage the growers to plant more trees. Of course the prices are not so good every season, but, taking one season with another, orchard Cherry-growing will pay its way. For one thing, there is not much expense attached to it, for, excepting manuring, little else is needed. In this district the Cherry orchard is generally in close proximity to the house or homestead, being mostly used as a run for poultry and pigs. The orchards are always laid down to grass, as the Cherry as a standard will not thrive nearly so well if the ground is cultivated. The roots like to ramify near the surface, and the firm grass surface favours this. They are also more under the influence of the warmth from the sun's rays, consequently the trees are not likely to be affected with gumming. The best site for a Cherry orchard is comparatively high and dry ground. The one bugbear of the Cherry grower is the crack of the fruit, close, muggy or showery weather very often causing the fruit to burst wholesale. By selecting an open airy site the fruits are not so apt to become so affected. Some varieties again, are more addicted to this than others, Governor Wood being one of them. For this reason it is not a favourite with growers in this district. The method adopted by local growers in selecting their varieties is very commendable. If any varieties are known to produce good fruit and are suited to the district, then these are the ones selected. It is part of my duty to raise and train up thousands of fruit trees for the use of tenants on the estate, and one has to take great care in selecting the Cherries which they like. This season I have budded between 300 and 400 stocks. Some kinds have local names. For instance, there is a very fine dark late Cherry known as Smoky Duno, and which always sells well. As yet I have not been able to identify it with our named varieties, but evidently it is a variety well worth extended culture. Early Rivers of course is well known, so also are Elton and Bigarreau; also Bigarreau Napoleon and Florence.

In planting standard Cherries it does not pay to plant merely two or three trees, for directly the fruits change colour birds commence to be troublesome, and someone must be continually on the look out from daybreak till dark to scare them away, consequently enough trees should be planted to pay for this trouble being undertaken. It is not at all wise to gather the fruits just as they change colour, for like Grapes they swell up considerably during the colouring process, so in addition to the quality and appearance being improved, the additional weight gained is no small consideration. There is one important point which must be considered when selecting a site for planting, and that is perfect drainage. The soil must be open for

the roots to ramify, the soil being considerably warmer where there is an efficient natural drainage. Some of our best orchards are planted on soils of quite a brashy nature. In planting, prepare good stations quite 6 feet over, the soil being worked to the depth of 2 feet, the top turf being cut up and placed in the bottom. Some dry and gritty road scrapings added will also assist in giving the trees a start. Plant carefully, keeping the collar well up, and stake firmly, the pruning back of the heads being left till the following season. Afterwards very little pruning is necessary, strong shoots whilst the trees are yet young being checked by shortening, so as to secure well-balanced heads. Afterwards let them have their way, when the free growth will insure increased fertility and also add to longevity. It is the continued cutting in of the branches which leads to the early decay of the trees.

A. YOUNG.

Witney Court, Stourport.

MUSA CAVENDISHI FAILING TO FRUIT.

The notes by "E. J." (p. 161) on the above were interesting and of great value to intending growers. Doubtless the plant illustrated (p. 161) shows the value of heat and moisture given at the right moment. All, however, cannot get the proper heat and have to make various shifts, with the result that the plants do not fruit so regularly as one would wish. Another point worth attention is that there are distinct varieties of Musa Cavendishi, some being much more prolific than others. The best form I have found to be one with distinct bare or dark markings in the leaves. This is seen most in young plants. Some few years ago I noticed a superior type of Musa Cavendishi at Dalkeith, Mr. Dunn growing this variety grandly in a mixed plant house with less heat than is usually advised. Some kinds, too, are much harder than others. Failing to fruit is an important question, but to my way of thinking is partly solved by "E. J.'s" note, as he does not give the plants any resting season. Here is the point. All cannot devote a house as Mr. Last does to the plants, and I question if the check to growth at certain seasons does not interfere with their fruiting. Practically I am an advocate for the heat and moisture advised, but have been obliged to grow my plants cool at certain seasons of the year. From October to March, and I have found that in the case of strong plants embryo fruits formed in the stem either failed to push out, or if they did they were much weakened. One cannot give the best treatment in mixed houses and conservatories. In all cases where heat is limited, pot or tub culture is preferable to planting out. With ample warmth there is no difficulty whatever in having ripe fruits in twelve months from time of planting. I am sure "E. J.'s" advice as to giving the plants a restricted root space will be approved of by most growers, and I fully agree with it after thirty years' experience in the culture of Musas. It is most important to curb the roots, at the same time encouraging surface roots. It is also advisable to get the plants to throw up the fruit before winter.

W. I. M.

Notes on Apricots.—By allowing too free growth of the shoots during the early summer months, the growth made is very strong, and when this is shortened back the result is ugly spurs, from which it is impossible to secure fruit. The best and strongest blossom buds are obtained from short spurs, which are produced naturally along the shoots on growths which have been thinly laid in. Shoots which are allowed to grow ahead act as robbers, and add to the grossness of the tree, drawing away the support from the weaker branches. The knife should hardly be allowed on an Apricot tree, the finger and thumb whilst yet the shoots are young and tender being

the best pruner. Directly these side shoots commence to lengthen then those growths which are not required for branch extension should be pinched back. It is not disbudding so much as pinching which an Apricot tree requires, this equalising the sap evenly throughout the whole of the tree.—A. YOUNG.

Pot Strawberries.—These are looking uncommonly well this season, having grown away without a check since layering, and fine plump crowns are the result. The pots are also packed full of roots and need moving frequently to prevent them from laying hold of the ground they are standing upon. Watering with weak guano water for two or three weeks will not do much good by helping to build up strong crowns, after which it should be withheld in order that they may ripen up thoroughly before storing them away for the winter. The above remarks refer to the varieties for early forcing. The plants for main crop and late work must be kept growing for some time yet, and when the pots become well filled with roots the plants may have a mululant in the shape of guano water or diluted liquid. To the former I give the preference, as its action on the plants is to produce good solid crowns. Keep all runners picked off and pinch out duplicate crowns. Should wet weather prevail, and if the pots are not standing on a good firm base, remove them to another site having a hard bottom, and where they will experience full sunshine, that best of all mediums for ripening up the crowns. Watering must have careful attention, and see that none of the plants get abnormally dry before giving them water. Watering in an indiscriminate manner is to be deprecated, and it is therefore best to look the plants over twice daily. Where many plants are grown they are best given into the charge of one person, who should be made responsible for them, and then the watering and other incidental matter will be properly attended to. Should a spell of bright, hot weather occur, as sometimes happens during this and part of the succeeding month, a syringing about mid-day will do much good, but if the weather keeps dull and cool the syringing should be omitted.—A. W.

NOTES ON PEACHES.

The notes on Peaches which are now appearing in THE GARDEN are valuable, as growers are beginning to find out which are the most desirable varieties to cultivate. It is pleasing to find that Peaches are not so variable in quality when grown in different districts as the majority of other fruits. The only difference is in the later varieties, as a favourable climate is necessary for the development of their good qualities. Some of the varieties have an admirable constitution for outside culture, and these are the ones to depend upon. Of course, even with these, good culture is necessary, for if insects are allowed to have full swing, either when growth is just commencing, or later on red spider or lack of water at the roots, the best of Peaches which are advised for outside culture will fail. Those two fine early Peaches, Alexander and Hale's Early, have been excellent this season in this garden, equally as good as those which are produced under glass. As Mr. Wythes observes at p. 179, the Peach simply revels in brilliant sunshine such as has been experienced this season if sufficient moisture is applied to the roots. Fortunately, I have plenty of water and have been able to water the Peach trees freely. I certainly advise a tree of each of the above-named varieties being added to the Peach collection in any garden. Then again, what grand Peaches Crimée, Galande and Belle-grave have been. This latter variety has been first-rate, the fruits all of the first size and very even in shape. There we have Dr. Hogg, another very fertile and hardy Peach. As Mr. Wythes says, if it has a fault it is in being over-productive, but this is easily rectified by thinning with a free hand during the early stages. How slow some people are to thin; they appear to be afraid to thin out the young fruit, with the result

that the trees are taxed above their strength, the fruits individually being undersized and poor in quality. If all varieties were thinned out to about 12 inches apart the crop would be vastly improved in every respect. Over-cropping is very exhausting to the trees' energies, more so by far than the laying on of pulp at the second sowing; yet we find some people very much afraid to thin with a liberal hand until this process is passed.

It is a question, when they have allowed the trees to grow thus far, whether they do even then this liberally. Dymock is a better Peach, and is being harder and more productive. This I find is becoming a general favourite—good evidence that the high praise that used to be passed on this variety a few years ago in the pages of *THE GARDEN* have borne good fruit. Stirling Castle is excellent and preferable to Royal George; in fact, it is so excellent a substitute for this latter, which is so addicted to mildew, except under very favourable conditions as regards climate. Alexandra Noblesse in the same way takes the place of the old Noblesse.

Late Peaches should be of exceptional quality this season, Walburton Admirable, Princess of Wales and Sea Eagle being all that can be desired. See Eagle is not equal to the two former as regards high-class quality, but it has size, colour, is both hardy and prolific, and takes well in the market.

Witney Court.

A. YOUNG.

POT VINES.

The importance of early selection of pot Vines cannot be over-estimated, as the grower well knows those canes which are at all soft are not desirable. It is not the grossest canes which produce the best fruit, as frequently those with long joints and much lateral growth at this season have the weakest buds. Few in private places are able to grow their own Vines, and indeed, with the multiplicity of subjects requiring attention, it is out of the question to do so, as houses to grow the same and the necessary labour involved take up much time at a season it cannot be given. I have noted the importance of early selection, and the purchaser by so doing can see at a glance the condition of the canes. There need be no fear of collapse if the foliage made early in the year is strong and the wood short-jointed; this is a point deserving attention. By early selection the purchaser may have the canes pruned to the desired height, as, if pruning or shortening of canes is necessary after the Vines are put into their forcing quarters, it causes bleeding when the sap is rising.

I have found all the preventives applied when the Vine is growing fail to check the evil, and the Vine often loses much of its power. It frequently happens pot Vines for very early supplies are forced in small pots. They are not required so long as when sent home from the grower; indeed, the latter ofteners on the side of length. One cannot give the canes the whole length (often 8 feet or more), and when only six bunches are grown—quite enough in most cases for hard-forced Vines to bear—it is not necessary to have canes over 6 feet in length. Of course, when pot Vines are used as extras to give a crop between newly-planted Vines in permanent houses, these remarks as to shortening of canes do not apply if the roots are strong and root space largely accordingly. I have seen serious losses by late pruning. There is no necessity to wait till the foliage decayed if the wood is thoroughly matured. Of course, after the pruning it is well to limit the supplies of moisture, as excess will cause the buds to start at the base of the lateral growth. There need be no fear of this, however, if the wood is hard and moisture sparingly given. With home-grown canes it is necessary to undertake the above work at the earliest date possible, and all lateral growth may now be cut

close home and the canes shortened to the length required. The same remarks hold good as to moisture. Though advising watering sparingly, it must not be thought my meaning is to keep the plants dust-dry; indeed, I do not think Vine roots, like those of most fruit trees, should ever be dust-dry. A season of rest is necessary, and as with pot Vines the season is very short, every endeavour should be made to hasten growth and rest as long as possible. When pot Vines are wintered in the open, it is important to plunge them, as the frost injures the soft white roots bristling round the pots, and a severe check is experienced when new growth commences, as the Vine for a considerable time is dependent on the roots made for the start. The Vine in most cases will have made several inches of growth before root action is fairly active, and if the plants are short of roots at the start, there will be bad colour, flagging and poor fruit. Few have bottom-heat or can give the Vines the best treatment, and are obliged to rely upon good canes to produce a full crop. Growers in some cases favour the Madresfield Court, but I find it cannot be pushed on so hard as the Hamburgh and Foster's, and with these latter grown specially for pot work, one is not fastidious as to a few degrees of extra warmth if Grapes have to be ripe at a certain date. The two kinds named can be grown with little trouble. It is worth while devoting a small house to the excellent Madresfield, planting it out for early supplies. Treated thus it gives an excellent return.

G. WYTHES.

LIFTING OLD VINES.

I SHALL be glad of your advice respecting some Vines which I lifted last year. They were planted inside the house, and being a greenhouse as well, I thought if planted outside they would produce better results. This was carefully done in October, the roots being laid into a good and well prepared border. The dry and hot summer has, perhaps, been against their success, and the supply of water having run out they have had no chance to recover. The Vines are all alive, though miserable to look at in their present condition. Shall I let them go on and chance the breaking in the spring? or would you cut them down in the winter to the bottom of the rafters so as to cause them to throw up new canes? The Vines are twelve years old.—P. M. M.

* * * Wholly lifting and transplanting twelve-year-old Vines was a risky undertaking, which in this instance might easily have been avoided. If the front walls below the level of inside border had been pigeon-holed and the roots given free egress to a new border formed on the outside, they would have soon found their way out, and in the course of a year the Vines would have been nearly independent of the support hitherto derived from the roots inside. The Vines are said to be in a miserable plight now, but it would have been more to the purpose if "P. M. M." had given some idea of the thickness of the lateral, and also whether the Vines had broken regularly or only at irregular intervals. If the young wood is evenly distributed and of the thickness of a quill pen, it would probably be advisable to lightly shorten this now, and at the winter pruning to cut to a good plump end in the usual way. Comparatively small wood, if all is righted, will sometimes produce a few small bunches, and in such case the resulting laterals will thicken sufficiently to give good results the following year. Should the growth be either irregular or very spindly the plan of cutting down this winter to the bottom of the rafters would probably enough result satisfactorily. Only one leading growth should be laid in, trained up the roof and stopped in due course, thinning out the rest and stopping those reserved beyond the fifth joint. Both plans might well be tried, cutting down those that have

broken the most irregularly this season. Larger tanks ought also to be provided for the storage of rain-water, outside borders, though requiring less water than those under glass, yet needing heavy supplies in a dry, hot summer.—I.

PEACH TREE BORDERS.

ARRANGEMENTS for the planting of the trees in newly-erected Peach houses, and for supplying deficiencies in early houses, caused either by death or through the cutting away of unsuitable varieties, should be made, so that the soil in the new borders will have time to settle down before the trees are ready for lifting. In the latter case it may not be considered necessary to renew the soil at all, or perhaps only a portion of it, but whether it be retained wholly or in part, it should be thrown out, and every particle of roots carefully picked out of it, and the drainage cleaned and rearranged before planting again. Personally I do not care to use the whole of the soil again, however good it may be, as the trees always appreciate fresh soil being placed about their roots. With respect to new houses it is a different matter, and entire new borders will have to be constructed unless the staple should be unusually good; but it is seldom that soil of such a character is met with, and the general rule is to make the borders of a prepared compost. The first thing to be done will be to excavate the soil in the interior of the house if the borders are to be inside, or at the front if the border is to be outside. A border 2 feet 6 inches in depth is sufficient for Peach trees, and this, with 6 inches of drainage, will make the necessary excavations 3 feet in depth. A drain with a good outfall should be laid along the front of the borders to carry off the water, as Peach trees require a great deal of moisture during the growing season, and ample means should be provided for it to pass away. If the subsoil is cold or wet or consists of clay or marl, it is good policy to concrete the bottom to prevent the roots finding their way into it. On gravelly soils this precaution is not necessary. The bed of concrete should be laid in a sloping direction that the water may pass quickly away. This done, the next thing to consider will be the

PREPARATION OF THE COMPOST,

and as soon as this is decided upon, the various ingredients should be got together, mixed, and the border constructed with all expedition. The Peach succeeds best in a rather heavy calcareous loam, and loams that do not come up to this standard should be rectified as far as circumstances will allow by the addition of whatever constituents may be absent. Light and sandy loams, which in themselves have no lasting properties, may have road sidings and scrappings, dried pulverised marl, bone-meal and half-inch bones added to make them more fertile. Heavy retentive loams require something to render them more porous, therefore, old plaster, lime rubble, wood ashes, charcoal broken fairly small or pounded brickbats may be added in varying quantities, according to the character of the soil to be dealt with. If poor, bone-meal and half-inch bones should always be employed to enrich the soil, but I do not advocate the use of animal manure in any shape or form for making borders, as it encourages nothing but rank growth, and its lasting properties are but fleeting. The bone-meal and half-inch bones may be used in the proportion of one hundred-weight of each to each load of soil.

When the soil has been mixed and thrown into a heap to induce slight fermentation, the drainage should be got in. This may consist of

stones or brickbats, and they should be properly arranged on the concrete or bottom of the border to the depth of 4 inches. On this place smaller material, such as clinkers broken up, surplus crocks from the potting shed, or brickbats broken small, 2 inches deep, and over all place a layer of turves, grass side downwards. The width of border will be determined by the kind of trees it is intended to plant. If young trees from a nursery are to be used, the border need not be made full width at the start, and it can be added to afterwards as required, the same as with Vine borders. On the other hand, if full-sized trees lifted from outdoors are to be planted, then the border must be made sufficiently wide to accommodate the roots, with a little to spare.

This matter having been decided upon, the soil should be wheeled in and spread evenly, taking care to firm it well by treading, and, in some cases, it may be absolutely necessary to make use of a rammer for that purpose, and when all is completed the border may be left to settle down until the time arrives for planting.

A. W.

WASPS AND THE FRUIT.

THE attack on ripe and even green fruit is an annual evil most growers have to reckon with, more or less, according to the nature of the season. Evidently wasps are experts in the art of finding out the best varieties, whether it be Apples, Pears, Plums, Peaches, Nectarines, or Grapes. Plums and Pears they are particularly destructive amongst this year. The Seckle Pear is a great favourite both with wasps and hornets, and I shall have to gather it before it is ready to save a portion of the crop. Doyenné du Comice, Louise Bonne of Jersey, and Marie Louise are other good Pears they attack; indeed, where the crop is small, they soon monopolise the whole. Bevill Cleisgrave's the yellow touch, and I have saved them by covering the blossom buds. Bevill Cleisgrave's the yellow touch, and I have saved them by covering the blossom buds. Bevill Cleisgrave's the yellow touch, and I have saved them by covering the blossom buds. Cox's Orange Pippin is the greatest sufferer, and a neighbouring gardener tells me he has had to gather his Ribston to save what few the wasps had not already spoilt. Cox's Golden Drop, Bryantown Gage, and Reine Claude de Baray are Plums they choose in preference to others available; such sorts as Pond's Seedling, Victoria, and Belgian Purple do not attract them. It is not quite so marked perhaps in Peaches and Nectarines, but seldom do the late sorts like Princess of Wales and Lord Palmerston get eaten if others of the Bellegarde type are within reach. Muscat Grapes they appreciate more than Alliancetes as they do not touch the latter growing in the same house. I was obliged to cut the Muscats and bottle them to save them from the wasps. I have never known hornets attack indoor Grapes, nor do wasps attack indoor Peaches and Nectarines here, although on the open wall they are very troublesome. I have destroyed all the nests of these pests that could be found within a half-mile radius, but still they come in goodly numbers. Two hornets' nests, too, have been destroyed, one in a bank close to a small stream, which I think is an unusual place, the other in the hollow garden wall. One was destroyed with cyanide of potassium, the other by flame from straw on which was sprinkled some sulphur. This, with the openings in the wall closed with wet clay, soon made a complete clearance.

Wills.

W. S.

Forced Strawberry plants.—Owing to want of room in many gardens these plants are often crowded together. This is a serious drawback, more especially in a season like the one we are now experiencing, as the plants do not dry freely, make an elongated growth, the crowns split, and when forced there is a mass of flower-scapes instead of one or two strong ones. No time should be lost in giving forced plants ample room to allow them to make a sturdy

growth. Another point often overlooked is change of position, as by turning the plants about. Not only is this necessary, but it prevents the plants getting waterlogged, as the roots soon grow through and choke the drainage. It is well to prevent rooting through. The roots are of great importance to plants when forced. Runners should be kept off, and in case of very heavy rains it is well to observe there are no waterlogged plants. If so, these should be placed on their sides for a few days. I now come to an important detail, viz., restriction of crown growths. It is useless to remove the crowns when growth is complete. If the work is done now, the crown left has time to build up strong flower spikes. I notice this splitting up of crowns is worse this season than usual, doubtless owing to the heat during the summer. Such kinds as Vicomtesse H. de Thury are the worst as regards splitting of crowns, and President is more inclined to do so this season. The newer Royal Sovereign is very strong. Most kinds are making a splendid growth, and will need attention on that account.—G. W.

Plum Jefferson.—This Plum stands unrivalled for all-round purposes, its flavour, being so good that the most fastidious can hardly find fault with it. For bottling while it is equal to Golden Drop, and a fine sweetmeat the fruits become when properly preserved in this way. It is a most prolific variety, bearing equally as well as a standard, bush, or a trained tree on walls. The fruits on the bush trees are extra well coloured this season, the sunny side being the mottled and flushed with dull crimson, and the flavour is exquisite.—A. W.

Pear Brockworth Park or Bonne d'Ezez.—is an excellent October Pear. Grown either as a bush tree in the open or as a cordon against a wall it is equally good and prolific, the fruits attaining a large size if well looked after. In appearance they are quite distinct, the colour being a pale green, turning to yellow when ripe, the surface very evenly dotted with light brown specks. On the side facing the sun the fruits become flushed with crimson, which renders them very handsome. The flesh is white, tender, juicy, and the flavour first-rate.—S. E. H.

Apple Bismarck.—The great amount of sunshine experienced during this season has caused all outdoor fruits to colour grandly. Apples are no exception to the rule, and the variety quoted above is a notable example, as, in addition to their fine size and clean, bright-looking appearance, the fruits have coloured better than I have ever seen them before. This is a grand Apple in every respect, its size and colour stamping it as a valuable market kind, and in addition to this the trees are marvellously fruitful and rarely fail to bear. The tree is also a hardy, vigorous grower, and I think intending planters need not hesitate about planting it largely, and in private gardens a few bush trees on the Paradise stock should have room found for them. One important matter I find I have omitted mentioning, and that is the fruits are very sound, solid, and heavy, a valuable fact not to be lost sight of by those contemplating growing Apples for market. The high opinion of this Apple formed by experts when first brought before the public notice has been fully borne out by its behaviour since that time, and it must have been very gratifying to the introducers to see how it at once caught on and how largely it has been cultivated since.—A. W.

The Violet, or Early Violet Plum.—(J. C.) (Notts), who inquires about this fine Plum, may obtain it true from Messrs. Wood and Ingram, of Huntingdon. It is grown extensively throughout Cambridgeshire and Huntingdonshire, as well as in Northampton. It is also one of the few Plums that are best propagated from suckers. With all our additions of late years, no Plum is more popular in our markets or for jam than the Violet, whilst it has neither Plum nor Damson so heavily clothed with bloom. In markets so far north as Manchester and Glasgow few Plums command higher prices. Its absence from catalogues—

alluded to by "J. C." and also from Dr. Hogg's "Fruit Manual" and other authorities—is one of those things which those that have seen the Violet Plum by scores and hundreds of bushels can quite understand. True, the authorities and catalogues give "Violet" and "Violette" Plums galore, but each with some other name attached, as if Violet were too short or weak to stand alone. This is very far indeed from being the case, for it is one of the handsomest and most prolific and constant bearing of all our Plums. The bloom alone would sell it in most markets, and there is quite a keen demand for Violet Plums wherever they are known. Large growers have assured me that there is more money in Violet Plum than in any other sort, not even excluding the best Green Gages. To those applying for this fine Plum it is needless to give the advice, to see that they get it on its own roots and without any addition whatever to its name.—D. T. F.

A variegated Vine.—In Mr. Dodd's Bexley Heath plant and fruit growing establishment there is to be seen a variegated spot from the Grape Gros Colman that is singularly beautiful and well worth perpetuating if only it can be fixed. It started from a spur not far from the ground in 1895, but was not propagated. This season the same thing again occurred, and at the present time a branching growth to a length of 25 feet has been suspended under the fruiting Vines in a large span-roofed house. It is hardly possible to conceive a more beautiful variegation the leaves throughout being nearly white and with only enough green to save them from damping off prematurely. What the effect of full exposure will be on this variegated growth has yet to be proved. There is abundance of hard wood for either layering or making into eyes, and next season we shall learn whether or not the sport is fixed in character and also if it is capable of withstanding little or much sunshine.—W. I.

APPLES AT ICKWORTH.

SOME very fine young espalier trees of many approved sorts of Apples may now be seen in these gardens, Mr. H. Coster having wisely made a good selection when planting a few years ago. That the soil suits the Apple is apparent by the thriving appearance of even very old trees, but the promising appearance of the young ones points also to well-considered culture. They are in two long lines in the centre of the kitchen garden, and some fine fruit of such varieties as Lord Suffield has already been gathered. The useful Eeklinville is represented by several trees, each carrying a full crop of clean, large fruit. Pott's Seedling—perhaps the very best cooking Apple in existence—is also carrying a fine crop of characteristic fruits. Lane's Prince Albert is found to bear much too freely for growth, and it is necessary every year to thin the fruits somewhat heavily. This latter is a remarkably fine Apple, keeping late into the season, and constant in bearing the fruit, roundish yellow when ripe, flushed with bright red. Warner's King is fruiting with all its wonted freedom, and it would, I think, be difficult to find finer fruit at Ickworth, worth, one presumes, a high price. Alfriston does not always bear freely as is desirable, but here there is no cause of complaint, a medium crop being produced this year. The well-known Bramley's Seedling is fruiting freely, but according to my own experience of this useful Apple, it does much better as an open bush or pyramid than as an espalier, the fruit being principally produced on the young shoots. It is certainly one of the best, and keeps good over a very long season if suitably stored. Sandringham is a beautiful Apple in appearance and good in quality. The fruit is of medium size, bright yellow when ripe, suffused with crimson, and it also is good over a long period. Mère de Ménage, Stirling Castle, Cellini, and many others are all doing well and bearing freely, and the beautiful Tower of Glamis arrests attention by its fine appearance. Among dessert

kinds the popular Cox's Orange Pippin is largely represented both by young and old trees, and this is unquestionably the finest dessert Apple in its season. Peasgood's Nonsuch is a fine-looking fruit, but lacks flavour, as also does Lady Heniker, though the latter has a fine aromatic perfume when ripe. Fearn's Pippin is useful for dessert late in the season, being of suitable size and good flavour. At Ickworth it cankers badly, but whether owing to prevailing circumstances or any constitutional defect I am unable to say. Cox's Pomona is grown freely and is a useful Apple, but not of first-rate flavour, nor is the Melon, a tree of which is grown against a south wall. It is pretty to look at, but useless to eat, and consequently is not, I think, worth growing. Blenheim and Ribston Pippins are grown, but of neither of these fine Apples will there a crop worth mentioning. The trees of these and all other kinds are evidently in good hands, and there will be no scarcity of Apples at Ickworth until well into the new year.

FIGS IN A PLANT HOUSE.

WOULD Figs succeed planted underneath the staging of a lean-to house, the dimensions of which are 15 feet long, 12 feet wide, and 12 feet high at the back, with path through the centre from end to end and staging back and front. I propose covering back wall with Figs, and have a miscellaneous collection of greenhouse plants on the stages.—A NATUR.

* * There is no doubt as to the Figs being a success if you pay attention to cultural details. Give the plants free exposure, as, if overshadowed by other plants, you will fail. In the first place, the border for the roots will claim attention. This is most important, as the Fig, given a free root-run, is gross and barren, and in your case the roots will require more care, being covered with a stage. My advice would be to make a rough pit or bed under the staging to hold the plants, say 2 feet to 3 feet in width the whole length of house, to the same depth; that would allow of 6 inches of brick rubble for drainage, leaving spaces in the ball for the water to escape at the bottom, as it is advisable to concrete or cement the bottom of the bed to prevent the roots going down. You may dig up the soil in your house at the back to the depth given, concrete and drain. Your plants for a considerable distance would get no light, the back stage and glass keeping away light and sun. Again, in such a position your plants would get more moisture at certain seasons, there would be continual growth when the trees should be at rest. With a raised border you can throw off the drainings from the stage by a simple contrivance of zinc or slate in a sloping position. Of course, if you had no plants on back stage you could give better treatment. By having a raised bed you will only have 9 feet of back wall to cover—quite enough if you grow your plants well and get new wood yearly. Then as to soil. Get a holding that is rather a heavy yellow loam if possible; mix, say one-quarter of old mortar rubble with it, and, if obtainable, a portion of burnt wood ashes and, say, 1 bushel of bone-meal to 20 bushels of soil. Ram the compost firm, placing a portion of the roughest on the drainage, or, what is better, sods of turf turned grass-side down. Firm soil means fibrous roots—an essential condition, as that promotes sturdy growth. Plant any time in the new year, say from January to first week in March; obtain strong plants—not old ones, but those in 6-inch or 8-inch pots with, say, two or more strong side shoots to form leaders. Do not overwater till the plants are growing freely, and do not attempt to fruit the first year. Encourage the plants to run up three to five leading shoots; do not stop these at the points, but stop the side or foreshoots short. For your purpose Brown Turkey is the best variety, and during growth syringe the tops twice daily. Scale is the Fig's worst enemy; if it appears, syringe twice a week with some insecticide, and from August to October give the trees free exposure.—G. W.

ORCHIDS.

PROMEN-EAS.

THE half dozen or so of species contained in this genus have been by some authorities merged into *Zygopetalum*, but it is extremely unlikely that except for botanical purposes they will ever be known as anything but *Promenaea*, the name given by Lindley. All are dwarf-growing, neathabited plants of an epiphytic character, requiring care to grow them well, though they can hardly be placed in the category of difficult plants to cultivate. Where many fail with these, as with so many other small-growing plants, is in not paying attention to small details. It is not enough to keep a stated temperature up, and shade, water and ventilate according to a rule of thumb; each species and in fact nearly each plant must be separately catered for and must come in for separate examination frequently. For instance, two plants may be potted at exactly the same time, and as much care apparently taken with one as another; they may be grown in the same house and under the same conditions as nearly as possible, yet one does well and the other makes but little progress. Here the cultivator who is interested in his plants steps in and by examination of the plant can usually see what is wrong. It may be that the compost used for this particular plant was not so good as that used for others, or the pot may have been insufficiently drained; insects may have been at work at the roots, or any other of the many ills that Orchids are heir to may have happened. Whatever it is must be seen to and put to rights, or by degrees the plant will get weaker until it ceases to be of any value. This is the case then with all Orchids, and with these small growers more particularly. They are no more difficult to grow in a suitable temperature and atmosphere than any of the larger and more vigorous kinds, but these later by their nature will withstand impunity a check that would be serious if not fatal in its consequences to these pygmy species. I would advise all amateur cultivators of these plants then to use every endeavour when they have a healthy plant to keep it so by as constant attention as they are able to give it, and not to be misled by cultivators who go on the let-well-alone principle until they find that by it their plants are going back. Keep up the initial vigour of the plants and they will give little trouble, but when once a backward tendency sets in it is most difficult to arrest, and the grower finds out when too late that all is not smooth in Orchid cultivation. There are two cardinal points to be kept in mind in the culture of *Promenaea*; they are a sweet root-run, and a cool, well-balanced atmosphere.

All the species come from Brazil, but they are for the most part found at considerable elevations. Keep them closely shaded then, in summer, and in winter only allow sufficient fire-heat to keep the temperature at about 50° at night. Load the atmosphere with moisture by frequent damping and change the air in the house as often as possible. They would one and all be the better for being blown about by the wind, the currents of air rustling the leaves as they do in their native habitat, provided at the same time the atmosphere could be kept moist, but there comes the trouble. In the low, narrow span of a cool Orchid house a current of air like this licks up every particle of moisture from about the plants, and damp as freely as one may, it is all swept away as fast as it rises. All that we can do then, is to balance the temperature as well as we can and not allow so much air on the one hand as will cause

a dry atmosphere, or so little as to make it stagnant.

In preparing a compost for these Orchids it is necessary to select the best of the material, for the roots, though fairly large, are easily surfeited and hampered by closeness of the soil. Pans just large enough to allow of a slight margin of compost round the bulbs will suffice, and these may be nearly filled with drainage. Over this put a thin layer of rough Sphagnum Moss, and set the plants a little higher in the centre than at the edges. Lay a little compost over the roots and mix in a quantity of small crocks. The lighter all this is placed, provided the plants cannot rock about, the better. Air will move about the roots more freely, and these in their turn can push easily into the material. Another good holding, when it can be obtained, is found in pieces of Tree Fern stems, the natural roughness of this material suiting the roots admirably, and the plants have, moreover, a very fine appearance when growing upon them. Water must never be withheld from the roots, summer or winter, though, of course, owing to the outside conditions, less is required during the latter season. Though it is not advisable to pull the plants about when in active growth, they may, if in bad condition, be repotted at any season, but I prefer to repot or top-dress just before they begin to grow. Possibly the most generally grown in the genus is

P. CUTTINIA.—A charming little plant and worthy of greatly extended culture. It produces small yellow flowers during late summer and early autumn, and lasts a considerable time in full beauty. The sepals and petals are short and incurving, pale yellow than the lip, which is also more spreading and freckled about the base and side lobes with bright crimson. This was introduced in 1838 with

P. ROLLISONI, a somewhat similar kind, and which may occasionally be seen growing together in the same clump. The blossoms of the latter are larger and rather differently formed. In this the lip is sometimes pure white, seldom so deep in colour as the other segments, and the spots are more freely distributed, of a magenta-purple tint.

P. STAPLEDOIDES is not so showy as the two last named, the yellow in the sepals being of a green and brown tint, and there are several maroon bands across it at intervals. The lip is similar in colour to the sepals, but the column is a bright golden yellow. This is an older plant in collections, having been introduced in 1830.

Cymbidium pendulum.—The long, pendulous spikes of this Orchid have a fine appearance on well-grown plants and the blossoms last a long time in perfection. It blooms at various seasons of the year, and the flowers are large, bright olive-green externally, marked inside with purple, the lip white, marked with bright rose. *C. pendulum* is a native of India, and does not relish so cool treatment as *C. Lowianum* or *giganteum*. In a strong-growing plant it must be kept well watered during the time it is in active growth, the foliage also being kept free of insects, especially the small brown scale so troublesome to these plants.

Miltonia Moreliana.—Whether classed as a variety only of *M. spectabilis* or given specific rank—to which it is more entitled than many so-called species—this is an extremely beautiful plant, and one worthy of every care. In habit it closely resembles the typical form, and the same treatment answers for both. The blossoms are larger than those of the type, the ground colour a deep purplish red; on the lip this is overlaid with bright rose. There are several sub-varieties, one of the best of these being *M. Moreliana superba*, the flowers having more substance and width in the petals and being much deeper in colour. *M. Moreliana* comes from Brazil, and was introduced in 1847.

ARRANGEMENT OF ORCHIDS.

THE annexed illustration shows what a beautiful effect can be produced by the association of Orchids in flower with suitably chosen fine-foliated plants. The plants, as will be noted, are all thinly disposed, so that each one shows its natural habit; there are no crowding, no straight sloping banks, and without no bare places, yet after all there are only a few Orchids. Contrast this with some of the crowded groups too often put up at our horticultural shows by skilful growers, whose desire apparently is not to produce a pretty floral picture, but to make a very lavish display of the best they have in flower—a stiff bank of colour not relieved by a single bit of green foliage, except that of the Orchids themselves, which is seldom of an ornamental character. In arranging

irregularly. Of course an idea as to the general outline of the group must be previously formed and kept in mind during the arranging, but this is usually suggested more by the shape of the house or stage that has to be dressed, and must of necessity vary with the class of plants that one has to use. Finishing the front, too, is an important point, and one that requires considerable taste and skill. There are many plants, such as dwarf Ferns, Fittonias, Caladiums of the argyrtes type, Panicums, and Tradescantias that are well adapted for this, but why these should be arranged in a regular fringe-like border the same all round has always been a mystery to me. All the plants named are pretty, and may be made to look pretty if allowed to show their individual character, but arranged in straight lines or curves

plants are used with them. Ferns and Palms seem to be the best associates for Orchids, and nothing is more charming than a few well-flowered specimens of Orchids placed about in a planted-out fernery. Take a large specimen say of *Dendrobium Pierardii*, with its long pendulous pseudo-bulbs closely studded with the pretty mauve blossoms. In the Orchid house it looks incomplete, owing to the fact of the flowers appearing after the foliage has fallen; but hang it up in the fernery, so that it is, so to speak, surrounded by greenery, and no one will fall out with you for calling it a thing of beauty. The arching spikes of *Odontoglossum crispum* never look so well as when rising from a groundwork of one of the finer Adiantums; the finely-cut fronds of *Gleichenia* or the *circinata* type make a remarkably good setting for the



A corner of an Orchid house. From a photograph sent by Mrs. Talland, Rolliston House, Horncastle.

groups of flowering and fine-foliated plants some of our best known exhibitors have quite excelled themselves during the present season. Such groups, of course, can only be put up by those who have a large stock both of flowering and fine-foliated plants to draw upon, but the charming little view shown may be copied with variation according to individual circumstances by almost anyone who has a collection of any size. Though the statement may meet with opposition, I am convinced that many decorators take too long over their floral arrangements. They make up their minds that a group shall be of a certain size, and such a plant must of necessity be in the centre, another on each side, and the result of all the trouble is a formal arrangement not half so pleasing as it would have been if the plants had been placed

they lose their individuality, and have only the appearance of a paper dado around a room or the border of a carpet. The colours may be harmoniously blended, and there may not be anything to offend the most critical observer as to the condition of the plants, but the arrangement is flat and regular; in a word, it is not natural. The prettiest and most effective arrangements are those that get furthest away from this prim and proper style, and there is as much difference between the two as there is between some fine old herbaceous border, rich with its towering spikes of Hollyhocks, Delphiniums and other noble plants, and one planted with straight rows of summer bedding plants.

Orchids of nearly every kind lend themselves readily to effective grouping, and as a general rule the effect is best when no other flowering

blossoms of *O. grande* or any of its allies. As single specimens to stand alone there is nothing to compare with the better class of distichous-leaved Orchids, such, for instance, as the good old *Aerides odoratum* or *A. Fieldingii*, the *suavis* and *tricolor* section of *Vandas*, or some of the larger growing Moth Orchids. A well-flowered specimen of *P. Schilleriana*, with a couple or three of its long, branching spikes of lovely rose-pink blossoms hanging loosely and elegantly from the centre of a large Tree Fern or Palm, is a magnificent sight, and many of the long-spiked Oncidiins in a similar position are almost equally beautiful. In fact, they must be so arranged to show their beauty, for anything more ridiculous than these lovely plants tied up to stakes and closely crowded together it would be difficult to imagine. Cypri-

pediums, as a rule, are best arranged on a lower level; they have not the lightness and grace of many other kinds, and, beautiful as they are individually, they lack the elegant poise of Dendrobiums or the gorgeous beauty of Cattleyas. What is known as the *Selenipedium* set of the genus may be cited as exceptions to this, for there are some lovely plants in this section—the long-petalled *C. caudatum*, the small, but exquisite *C. Schlimg*, and many of the hybrid kinds related to *C. longifolium* and its allies as instances. During the winter months bright and telling effects may be produced by judicious arrangement of the deciduous section of *Calanthe*, groups or mounds consisting of one colour, flanked with dwarf and more compact-habited plants looking well and keeping up a continuous display over a long season. Again, there are few plants more cheerful and bright-looking during the dull, dark winter days than *Sophronitis*, the warm crimson tint of the flowers serving to brighten up a group of other Orchids in a remarkable degree. In fact, the striking combinations and gradations of colouring, the quaint forms and delightful features of the flowers, and the marvellous variety make the Orchid family second to none for the purpose of artistic and telling arrangement. Out of the multitude of species, not one can be called gaudy or common-looking, but every one has its own special marks of interest. This latter point makes the worst arranged group of Orchids interesting, but when they are tastefully associated with suitable fine-foliated plants, nothing can be more attractive.—R.

Mrs. Talland, whom we have to thank for the photo from which the illustration was prepared, sends us the following notes:—

Planted out in the bed on the right are various specimens of Palm, Ficus, Musa, Euphorbia, Dracaena, and Crotons, with a border of Aspidistras, Ferns, and fine-foliated Begonias. Suspended are Cologyne cristata, Dendrobium nobile, and D. Wardianum, all masses of bloom. A fine specimen plant of Anthurium crystallinum fills the left hand corner, with more Dendrobiums, Cologyne, and Cattleya Trianae in flower on the shelf behind, whilst in the centre is a splendidly flowered plant of double white Clematis, one of the most beautiful plants for forcing, the blossoms opening out the purest of white and the petals light and delicate, resembling more than anything else bunches of ostrich feather tips. The whole of the wall of the house is densely covered with an enormous plant of Ficus repens, its dark green foliage making the best possible background for the flowers and foliage in front.

Cypripedium Arthurianum.—This is a choice and beautiful little hybrid, of which it is said one plant only was grown to flowering size from the first seed-pod. It is the progeny of *C. insigne* crossed with pollen of *C. Parviflorum*, and was raised by Messrs. Veitch, of Chelsea. In habit it resembles *insigne*. The flowers have a yellowish green dorsal sepal, tipped with white and spotted with purple, resembling a good form of *C. insigne*, the petals green, veined with crimson, the pouch yellowish, overlaid with brown. It grows freely in the intermediate house and first flowered in 1874.

Epidendrum rhizophorum.—This is a pretty plant when in flower, but one of the most straggling of all Epidendrums. The long leafy stems look untidy if allowed to fall about the pot, so they ought either to hang where there is ample room for them, or be trained up under the glass in an intermediate temperature. The flowers are produced in loose racemes, the colour being a bright orange-red, these occurring on the ends of the stems. It is a free growing plant, and may be grown in large pots well drained, the compost

consisting of good peat fibre and Sphagnum Moss in equal proportions. To induce it to flower freely, the roots may be kept a little drier during winter, and every precaution must be taken to consolidate the growth. When in full growth it is benefited by a little shade, the young foliage being tender. At other times it requires almost full exposure to the sun.

Lycaste lanipes.—Some of the forms of this Orchid are among the best in the genus, the pale green tint, as seen in some others, almost entirely disappearing and giving place to nearly pure white on the sepals, petals, and lip. It is one of the freest blooming kinds, small plants even pushing up a great number of flowers from the base of the last-matured pseudo-bulb. *L. lanipes* delights in a cool, moist house, and may with advantage be placed in the lightest position. It will not flower freely in a hot, shady temperature, although it will grow very freely and produce very large bulbs. It is best grown in pots in a mixture of about equal parts of peat, loam fibre, and chopped Moss, a good handful of finely broken crocks being thrown in as potting proceeds. During active growth it must be very freely watered, and moreover be readily dry at any time. Still, little check has to be given, if possible, as the growth is otherwise apt to start out of season. Perhaps the safest way to steady the plants, and at the same time avoid checking them unduly, is to place them for a week or two in a drier atmosphere as soon as the flowers are over. The growth sometimes starts with the flowers, and when this is the case it is of course useless to try and keep them back. The only thing to be done is to grow them as stoutly as possible, to keep them free of insects, and to harden the young growths as well as possible by allowing plenty of air.

Cypripedium Chamberlainianum.—This well-known and beautiful kind seems to be in flower nearly half the year, no other species producing so many blossoms upon the spike. This rises from the centre of a tuft of green leaves, and as fast as one flower drops there is another to take its place. The dorsal sepal is white, lined with rosy purple, the petals quaintly twisted, hairy on the edges, greenish white spotted with dark crimson, the lip spotted with rose. It seems to delight in a warm moist house and under the usual conditions as recommended for Cypridiums. It is worth while taking care of this plant for few are so quaint and beautiful.

Cattleya Eldorado superba.—This is a large and very superior form of the type, the segments broad and of good substance. The sepals and petals are bright rose, the lip has a beautiful deep blotch of violet-purple in front and a yellow throat. All the segments are lightly serrated at the edges, giving the flower a very distinct appearance. Like the type it flowers on the apex of the new growth and is of fairly easy culture. It does well suspended from the roof in the ordinary Cattleya house temperature, and may be grown in baskets or small pots in the usual compost.

Cypripedium coccineum.—In habit and general appearance this singular species is entirely different from any other in the genus. It produces at intervals upon a creeping rhizome tufts of stiff narrow green leaves, each about a foot high. The flower-scapes push above this and carry from six to eight flowers, one appearing after the others fall, as is usual with the *Selenipedium* set. The blossoms are pale green with a white margin to the dorsal sepal, the petals being tipped with rose, the lip spotted with dark purple. *C. coccineum* does not always flower so freely as desirable, but this is sometimes due to being grown in too great heat and shade. It is almost a cool house plant, in fact, a native of Peru, so that in a temperature that suits Odontoglossum grande it will thrive. In fact, as far as growth is concerned, it will grow in the ordinary green house, but in such a position is not likely to improve much or to produce many flowers. Good fibrous peat and moss, a little loam and plenty of

crocks and charcoal may be used as a compost. It may be grown in large shallow pans or pots. When repotting cut away all decayed portions of root, and dispose the rhizomes so that the plants are well furnished with growths in the centre. It flowers at various times in the year, and at all seasons must be kept well watered, though care is needed that the compost does not get sour or waterlogged.

Maxillaria luteo-alba.—This species comes from Colombia, and though not a very showy Orchid, nevertheless attracts attention on account of its peculiar hue. The sepals and petals are narrow, the former yellowish on the front portion and purple brown behind, their semi-transparent texture making them appear to be shaded with brown inside. The petals are smaller, in some plants pure white, in others similar to the sepals. The lip is yellow in front with a white margin, the side lobes striped with brownish crimson. *M. luteo-alba* may be grown in quite a cool house in a mixture such as suits Lycastes. During the growing season abundance of water is needed, the atmosphere being also kept very moist, but in winter only enough to keep the bulbs from shrivelling is necessary.

ODONTOGLOSSUM HALLI.

SEVERAL plants of this fine species are now commencing to bloom, a very useful time, seeing that so few are in the genus flower at this season. In habit *O. Halli* is easily distinguished by its long, thin pseudo-bulbs and light green foliage. It is a free grower in a suitable atmosphere and temperature, and soon makes nice neat specimens. Out of a small consignment imported three years ago I have flowered several nice varieties of the golden-lipped *xanthoglossum*, and these make a pleasing change from the light-lipped typical form. This has pointed sepals and petals, buff-yellow, marked with rather heavy blotches of chocolate-brown, the lip white, with red spots and prettily crimped edges. *O. Halli* is a very restless plant and frequently grows out of season; indeed, it can hardly be said to have any season in particular either for growing or flowering. On this account it is difficult to say what is the best time for repotting, but, as a rule, there is a flush of young roots produced during the early autumn months, and if this is taken advantage of, the plants soon gain a hold in their new home and grow away vigorously afterwards. The roots are not large, but they are very persistent and grow closely together, making it difficult to clear them of the old compost. At present, however, it may be as old stuff left alone because our air impedes the growth of the new roots. Care is necessary not to damage at potting time any of those that may be starting, and a little Moss may with advantage be wrapped around the base of the bulbs before placing in the new pots. These should be just large enough to allow of an inch or a little wider margin, and be filled three parts full of crocks, a layer of Moss being placed on this and the new compost firmly bedded about the roots. This will consist of equal parts of peat and Moss, a few finely broken crocks being introduced as potting proceeds in preference to mixing them with the other material. Dibble a few points of Sphagnum around the edge and clip off all neatly, returning the plants to their growing quarters with as little delay as possible. This should be the coolest house at command, *O. Halli* thriving well in company with *O. triumphans*, *O. luteo-purpureum*, and others of the coolest section. Although not so fastidious as to moisture as some of the other kinds grown in this house, the growth is always finer and cleaner where shaded from bright sunshine and the atmosphere kept thoroughly moist. For a little while after repotting water must be very judiciously used about the roots, but when they are running freely in the compost, water may be applied more freely, but stunted, only a very little less being needed during the winter months. *O. Halli* is a native of Peru and Ecuador, and was introduced in 1864.

TREES AND SHRUBS.

THE CHINESE CHESTNUT.
(*XANTHOCEAS SORBIFOLIA*.)

AFTER having been for many years a rare plant in English gardens this really beautiful hardy Chinese shrub is becoming more widely known and cultivated, the result being that here and there among the varied conditions of climate and soil it has found a congenial home suitable to what we must consider its peculiar constitution. When a plant, shrub or tree grows luxuriantly, flowers freely, and perfects its fruit we may suppose that the species has found the requisite conditions under which it flourishes naturally, and this Chinese shrub has evidently met with these conditions in various parts of these islands, and among the gardens where it succeeds well is that of Major Gaisford at Ovington, Worthing, where, as may be seen from the illustration, the shrub has produced and ripened its fruits, which recall to us in form and size the fruits of its near relative the Horse Chestnut (*Æsculus*). The seedlings raised from English ripened fruits may possibly result in some exceptionally fine varieties, as it is a well-known fact that there is a great difference among individuals of this shrub as regards the size of flower and cluster as well as in the brilliancy of the colour of the flowers. Some are poor and "waxy," while in others the zone of carmine at the base of the white colour is even more vivid than shown in the plate of the shrub given in *THE GARDEN* so long ago as December, 1875, when it was figured in colour for the first time in an English publication.

To those who do not know this plant it may best be described (as we see it in this country) as a low shrub with spare branches, clothed with pinnate foliage, not unlike that of the familiar *Spiraea Luddleyana*, while the flowers most resemble a spike of the common Horse Chestnut in a general way, but the flowers individually are different. They are quite white, an inch or more across, with a zone of carmine of varying depth of tone at the base. The flowers in the best forms are gathered in rather dense clusters terminating the young shoots, and appear about June. It appears to be a quite hardy shrub. At Kew it thrives but indifferently compared with specimens I have seen in mild coast gardens, but I imagine that against a wall it succeeds better, for at Kew it reaches the top of a 12-foot wall, while as an open bush it is only half that height. I have seen it in many places during the past few years, and when in flower I always remark what a beautiful shrub it is. It is, unfortunately, one of the difficult plants to propagate, but I have heard that it can be increased by root cuttings. But now that we can get it to ripen perfect seed it is likely to become more plentiful.

What a pity it is that this and other beautiful hardy shrubs, *Eucrypha pinnatifida* and *Exochorda grandiflora* to wit, are encumbered with such clumsy botanical names. Few people venture to pronounce them, and would rather undertake a round-about description than attempt it. Therefore I venture to suggest for the *Xanthoceras*, in deference to the majority of the gardening public, a common pronounceable name, the Chinese Chestnut, though I know at the risk of being called to book by my botanical friends. But, notwithstanding, I think the name appropriate, for seeing the shrub in flower recalls at once the spikes of Horse Chestnut, and, moreover, the shrub is such a near relative of the true Horse Chestnut, that I

should not be surprised to see the botanists merge it some day with *Æsculus*.

Kew. W. GOLDRING.

Choisya ternata.—Here in the southern part of Hants the Mexican Orange Flower succeeds admirably in the open. We have a magnificent bush of it growing at the foot of a south wall, and in April this gives us a wealth of blossom—in fact, the trusses are so thick that the foliage can scarcely be seen. The spring is a capital time to root the cuttings. In a gentle bottom-heat they strike readily in sandy soil.—E. M.

—Mr. Sangwin must not suppose that *Choisya ternata* is not grown out of doors except in Devon and Cornwall. Here, against the house, there is a plant 8 feet 6 inches high and 6 feet wide which is covered with flowers every spring, and this year for the first time I have observed that there are second flower buds, but I doubt their coming to anything. It has stood out without any protection here for some years, and the

York the following list of Rhododendrons which are hardy about New York and Boston, and which may be interesting to people in this country who are determined to have kinds so frost-proof as these my be: *Rhododendron album elegans*, *R. album grandiflorum*, *R. Alexander Dancer*, *R. astro-sanguineum*, *R. Blandyanum*, *R. B. W. Elliott*, *R. Caractacus*, *R. Charles Bagley*, *R. Charles Dickens*, *R. congestum roseum*, *R. delatissimum*, *R. Duke of Teck*, *R. Everestianum*, *R. giganteum*, *R. gloriosum*, *R. H. W. Sargent*, *R. John Spencer*, *R. John Walker*, *R. Lady Armstrong*, *R. macranthum*, *R. Minnie*, *R. multimaculatum*, *R. perspicuum*, *R. pictum*, *R. purpureum elegans*, *R. purpureum grandiflorum*, *R. roseum elegans*, *R. roseum grandiflorum*, *R. roseum pictum*, *R. roseum superbum*; dwarfs: *R. myrtifolium* and *R. Wilsonianum*.

THE SPRUCES OF EASTERN AMERICA.

THE BLACK SPRUCE (*Picea nigra*) is an inhabitant of cold, wet Sphagnum swamps, where it rarely grows 60 feet high or lives over 100 years. It is a tree of open habit, with branches which sweep downward in slender, graceful curves. The branchlets are covered with rusty pubescence, the leaves blue-green and very glaucous. The cones are each from three-quarters of an inch to 1½ inches in length, strongly incurved at the base, dark purple when fully grown, and remain on the branches for many years, stunted trees often producing cones when 5 feet high. The Black Spruce is common in Labrador and Newfoundland, and ranges to Hudson's Bay and much further north-westward. It is common in the maritime provinces of Canada, following down the Atlantic coast to New Jersey, although south of Cape Ann it is not common in the coast region, being confined to a few isolated swamps; it ranges westward to Manitoba and Northern Minnesota, and southward to Pennsylvania, Michigan, and Wisconsin, and is said to grow in elevated swamps on some of the high mountains of Virginia. As a timber tree the Black Spruce has little value, except, perhaps, for local use. In cultivation it loses its beauty early, growing thin and straggling.

THE RED SPRUCE is a tree often 100 feet and occasionally 120 feet high, with a tall trunk 3 feet or 4 feet in diameter; slender, slightly pendulous branches which form a narrow, pyramidal head; stout branchlets clothed with rusty pubescence and dark green lustrous leaves. The cones are oblong and each from 2 inches to 2½ inches long, light green, sometimes slightly tinged with purple, and fall within a year after ripening. The Red Spruce grows in Labrador and Newfoundland, the Canadian maritime provinces, and follows down the Atlantic coast to the neighbourhood of Rockport, Massachusetts. It is the common Spruce tree of all the interior regions of New England, New York, and Pennsylvania, and ranges south along the Alleghany Mountains to the high peaks of North Carolina and Tennessee. It is the upland Spruce of the Northern States and the common timber Spruce of New England, New York, and Pennsylvania, nearly all the Spruce timber of these States being obtained from this tree, which is the Black Spruce of lumbermen and most botanists. In cultivation it is a beautiful long-lived tree of excellent colour and



Fruit of *Xanthoceras sorbifolia*. From a photograph sent by Miss Gaisford, Ovington, Worthing.

thermometer has more than once been below zero. There is a larger specimen than this in Mr. Wolley-Dod's garden at Edge, near Malpas. It is one of the most beautiful plants in existence, and grows fast when the position suits it.—HENRY HOWARD, Wygfair, St. Asaph, N. Wales.

Lonicera hirsuta.—This native, twining, high-climbing Honeysuckle, although now rarely seen in cultivation, is well suited to enliven the garden with its ample dark green foliage and terminal and axillary clusters of bright orange-coloured hirsute, fragrant flowers, which open in June, and in fading turn to dull purple or brown. It inhabits rocky banks or climbs over bushes and fences, and is distributed from the province of Ontario along the northern shores of Lake Superior to the Saskatchewan, and southward to Pennsylvania and Michigan. Gardens may be used to cover trellises and arbors to support coarse shrubs and to climb into small trees; and as a garden plant it is subject to the much more commonly named *Lonicera Sullivanii*, which is a less vigorous plant and more frequently disfigured by insects and disease.—*Garden and Forest*.

Rhododendrons hardy in New York and Boston, U.S.A.—Mr. French sends us from New

habit, with the general appearance of the Oriental Spruce (*Picea orientalis*).

THE WHITE SPRUCE (*Picea canadensis*) differs from the Red and Black Spruces in its stouter, pale and glabrous branchlets and larger buds, in its bluer and more glaucous foliage, and in the thin entire cone-scales, which are so flexible that a dry cone is easily compressed between the fingers, while the cones of the other species break under slight pressure. The strong, disagreeable wild-cat odour of the bruised leaves of the White Spruce distinguishes it from all other conifers, making it easy to recognise this tree at all seasons of the year. The White Spruce is common in Labrador and Newfoundland. It is the common Spruce of the St. Lawrence valley, extending down the Atlantic coast at least to the shores of Casco Bay, in Maine, and in the interior it finds its southern home on the high mountains of Northern New England and New York, Northern Michigan, Wisconsin and Minnesota and the Black Hills of Dakota, where, apparently, it is the only Spruce tree. The White Spruce is the principal timber Spruce in New Brunswick and the maritime provinces, and the wood of this tree is probably the only Spruce timber which has floated down the St. Lawrence and reached Europe from Canada.

As an ornamental tree the White Spruce is the best of the whole genus to plant in Canada and our Northern States. Its value as an ornamental tree for the north is shown in Prince Edward Island, where rows of this tree have been planted by the roads crossing the island, or have been left standing when the forest covering made way for tillage. These trees, which are often of great size, are perfect in form and colour, with branches which often sweep the ground, and compact, pyramidal heads. Cultivated in the Northern States, the White Spruce flourishes as far south as Southern New England, growing to a large size, retaining its lower branches and its dense habit for many years, and displaying great variations of colour.

—*Garden and Forest.*

A COUNTRY ROAD IN THE NORTH CAROLINA MOUNTAINS.

WHILE I have seen some very fine shows of Rhododendrons along the Pennsylvania Railroad from Altoona to Pittsburg over the mountain pass, still one does not see our American Ericaceae in their glory, I think, further north than the mountains of Virginia, and even there they do not compare with the grand show made by this order in the Carolina and Tennessee Mountains. We have square miles of them, veritable jungles where the *Rhododendron maximum* and *Kalmia latifolia* entirely exclude other undergrowth; unless it be the graceful *Andromeda* (*Leucothoe*) *Catesbeiana*, which is of course a much lower grower than the two former, which attain a height of 20 feet to 30 feet, the stem 18 inches in diameter. The purple *Rhododendron catawbiense* is generally confined to the mountain tops and higher elevations, usually 5000 feet to 6000 feet, and rarely under 4000 feet above sea level. In its rather local and isolated stations (none outside of North Carolina) *Rhododendron Vaseyi*, the beautiful recently discovered Azaleas, is apt to be crowded away from the streams where it delights to make its habitat by the sturdier *R. maximum* and *Kalmia latifolia*, and luxuriates on the edges of the "Laurels" and the hillsides above, even to the summit. Under these circumstances I have found it growing at the low elevation of 2500 feet and again 6000 feet up in the clouds capping the extreme summit of

the dark Balsam-clothed Grandfather Mountain, with its precocious masses of delicate white and pink clusters on naked stems, to be followed in order named by *R. catawbiense*, *Kalmia latifolia*, *R. maximum*, and lower down *Azalea calendulacea* and *A. viscosa* with *R. punctatum*, the pretty small pink species having blossomed before the *catawbiense* on the wilder ledges and in the crevices of bare cliffs.

Two thousand feet lower down *A. nudiflora* has blossomed at the time of *Vaseyi*, and *A. viscosa* is to be found everywhere, at home near our sandy seashore and equally so on the highest mountain tops, its time of blooming depending, of course, on its elevation, with us in July, lower down in May. The pink-stemmed *A. arboreascens* inhabits the banks of streams, and is again found on some of our highest mountain tops; the exquisite odour of this Azalea alone places it among our most desirable shrubs were it not for the foliage which is the finest of any cultivated Azalea, native or exotic; the beautiful large clusters of white flowers are rather scantily disposed, unfortunately, beneath the new annual shoots and foliage, a fault we can forgive inasmuch as it blossoms after all the other Azaleas have formed quite respectable-sized seed-pods. For fine landscape work the value of this species cannot be over estimated, and for this use I would rank it with if not above the gorgeous-flowered *A. calendulacea*, or Flame-coloured Azalea, as it is justly called on account of its brilliantly coloured flowers, which run the gamut of colour from light orange to deep crimson, making our hillsides afame during parts of June and July.

Among the ericaceous plants natural companions of the Rhododendrons and Azaleas in our Southern Blue Ridge Mountains the already mentioned *Andromeda Catesbeiana* perhaps heads the list as the most graceful and adaptable low bush evergreen we have; its long curving sprays contrasting splendidly with the stiffer growth and foliage of the higher growers. Then there is the long list of deciduous *Andromedas* and *Leucothoes*, many especially fine, including *A. recurva* and *A. Mariana* and our American prototype of the Scotch Heath, *Leiophyllum buxifolium*, which we find growing as contentedly in our high southern mountains as among the Jersey Pines. Of all plants suitable for borders and rockwork the prostrate form of the latter, *L. prostratum*, is the finest, at least among our American plants. On our highest mountain tops it forms dense mats clinging to the barren rocks and cliffs if it can get a crevice for a foot hold, one plant covering often a diameter of 5 feet to 6 feet with a height of only 2 inches to 5 inches, so compact as to completely hide the rock; and when covered with its small white flowers it is a sight well worth the climb it takes to see it. One of our most remarkable plants of this family is the *Galax aphylla*, whose leaves rise from the ground on separate and very graceful stems, the plants growing thickly and literally forming a feature in the landscape for many hundreds of square miles along our Alleghany Mountain sides and summits; for it is found in the dense "Laurel" and on the sunniest southern exposures, where the alternating frost by night and sun by day turn the leaves a most beautiful bronze, while in the deeper woods and thickets they remain perfectly green until the new crop comes the following spring. So popular have these leaves become for decoration that nearly ten millions were used the past season by the florist trade in this country. What finer sight is there than the sunny bank of a brook covered with a mass of these brilliant leaves in late autumn and winter? For plant-

ing along streams and for covering the ground in dense shade it is really a splendid plant.—
HARLAN P. KELSEY, in *Gardening*.

THE ABUSE OF FLOWERLESS CREEPERS.

TO THE EDITOR OF THE GARDEN.

SIR,—I have lately been on an August tour in Scotland and the North. I have seen several of the really fine "stately homes of England," and have been much struck by the prevalence of the same fault there as in the south, namely, ruining the walls and shapes of the houses by allowing a rampant growth of coarse creepers, such as Ivy, common Virginia Creeper and *Vitis* *inconstans*. This last is perhaps a peculiar favourite with gardeners, which is natural, as it requires absolutely no training, no fixing and no wiring. It is the most insidious and destructive of all. The tiny, lovely, delicate little branches that creep up the mulioned windows turn in two or three years into huge masses of green leaves of an even shape, which smother any less strong-growing creeper and destroy all outline of the house itself, its tiny feet sticking so fast to the stone or brickwork, that if you try to pull them away small particles of the very wall itself come with them. Besides the temptation of its beautiful early growth, one must admit that for ten days the red and bronze and gold of its autumn tints go far to compensate for its many defects during the rest of the year. But this pleasure is easily retained by allowing it to grow over some ugly barn or northern wall which has no architecture to injure or hide and where flowering creepers would not bloom. No one who has ever been to America and seen Boston can forget the dreary effect of house after house covered from cellar to roof with this luxuriant "vine," as every creeper is called in America. The Americans, in memory of where it comes from, call it Japanese Ivy. If anything could accentuate the ugliness of the general effect it is the square holes cut for windows in this evenly green foliage. With this picture in my mind, may I make some protest against the fashionable use of this creeper which seems to prevail from south to north of Great Britain? Just before I left home I saw with consternation that every delicate brick tower in Hampton Court had been carefully planted with this creeper. For the present it looks harmless enough to all but the prophetic eye of a gardener, but in a few years the sharp lines and delicate masonry will be entirely veiled by its luxuriant and monotonous growth. Surely fine and historical buildings are very much better left without any creepers. In the case of ordinary modern houses with bare walls it is infinitely better to cover them with the endless variety of shrubs, creepers and plants which can be chosen to flower in succession through the whole year, from the *Chimonanthus* *fragrans*, which pushes forth its sweet-scented brown flowers in January to the bare branches of the *Jasminum nudiflorum*, the yellow stars of which light up a December day. Broadly speaking, except in very unfavourable localities, I would never let Ivy grow on any east, west or south walls. —M. T. E.

Callas.—These are now making growth rapidly and should receive assistance by occasional applications of manure water. Most gardeners nowadays plant the stools out after dividing them, although they do very well the second year if kept in the same pots and well fed, not drying them off as some gardeners did years ago, but treating them similar to Chrysanthemums. In the draw-

ing room there are several ornamental receptacles standing on the floor which will only admit of a certain sized pot. Callas look as well in them during winter as anything, and I use the same plants for several years running, plunging the pots in the open ground in the kitchen garden, and watering them frequently with manure water. By increasing the size of the hole in the bottom of the pot the roots are able to go through and enter the soil beneath, and thus to supply additional nourishment to the plants. When the plants are lifted at the end of September these roots are cut off level with the pots. "Rough treatment," some may say, but if a shady position in a cool house free from draught is given and the foliage syringed twice daily, it does not flag and the plants do well. It is not safe to leave them in the open ground after the end of September, as only a very slight frost spoils them.—J. C.

FRUIT AND VEGETABLE CROPS.

SCOTLAND.

Taymouth Castle Gardens, Aberfeldy.—Apples and Cherries are a good average of good quality. Plums and small fruits are very good and over average crops. Pears are under, although the trees were smothered in blossom. Strawberries suffered from the drought and were under the average, but very good. Nuts of all kinds are very heavy crops, but they seldom come to perfection here.

Early vegetables were not so good as usual owing to want of rain, but all kinds are flourishing since the rain and are much earlier than usual, especially French Beans, Vegetable Marrows, &c. Early Peas did not stand long, but I have never had finer mid season Peas than this year. Telephone, Duke of Albany, and Fox second and mid-season, Prizetaker, The Duchess, British Queen, Telephone, Duke of Albany, Matchless Marrowfat, and Emperor Marrowfat. For late I grow Laxton's Filibasket, which never fails, and Sutton's Latest of All, a splendid Pea for a late crop.—ROBERT WEDDELL.

Celtness, Wishaw.—Apples, with few exceptions, are bearing light crops. Pears much below average. Plums very good, Victoria on standards especially so. Peaches and Apricots not grown out of doors, good under glass. Strawberries disappointing in quantity, and also in market value. Gooseberries good with us, but variable in the district. Currants and Raspberries very good. Cherries not much grown.

This season has been a trying one for vegetable crops, and that notwithstanding our heavy soil and moist climate. Brassicas and Onions have suffered severely from maggot and caterpillar. Peas are doing well, the well-known kinds being mostly grown. I am trying Graden this season, but am not yet in a position to speak of its merits. It seems a very early variety. The season has been marked by great fluctuations in temperature ranging from 84° in shade in early part of June to freezing point on morning of July 28.—J. GRAHAM.

Dochfour, Inverness.—Apples heavy crop.

Pears fair and of good size. Victoria Plums on standards, an enormous crop and of fair size. Jefferson and others on walls very good and of large size. Apricots and Peaches fair. Strawberries, Gooseberries, and Currants very heavy and of fine quality.

Tomatoes almost a failure, those inside badly dressed. Peas, Cauliflower, Cabbage, Carrots, Onions, &c., very satisfactory indeed.—R. STEWART.

Brechin Castle, Forfar.—The fruit crop in the gardens here and neighbourhood is much better than usual. Apples especially are plentiful, the trees keeping very clean and healthy. Gooseberries and all small fruits are above the average, in most cases very heavy crops. Strawberries are a fair crop, and with the fine weather quality has been good. This is my first season to fruit Royal Sovereign; it was the first kind ripe, very large and of good quality.

Vegetables are a rule have done very well. Early Cabbages, but rather small, with the warm weather, but late crops promise well. Peas are yielding plenty of pods with shorter growth than usual. I observed in THE GARDEN in spring some complaints of autumn-planted Cabbage bolting. In our planting from seed sown in the middle of July scarcely any bolted. Sutton's Flower of Spring and Ellam's Dwarf were the best. Potatoes are a good crop with no signs of disease.—WILLIAM McDOWELL.

Gartonside House, Melrose.—Apples are a heavy crop and of good quality. Trees that have not borne anything for many years are bearing a heavy crop this year. Pears also are a splendid crop. Like Apples, they are greatly above the average of former years both in quantity and also quality, and very early. Plums are a heavy crop, but poor in quality. I expect the rain we have had lately will improve them. Apricots, Peaches, and Cherries are a splendid crop. Goose-

berries are an enormous crop, of extra quality on young bushes. Currants have been good, but Black in the district are in general poor owing to the mite. I rooted all mine out four years ago, trenched and manured the ground well, and planted young bushes. I have a splendid crop this year and no sign of disease. Raspberries a good average crop. Strawberries in some places here are almost a failure, but failure can be traced to poorness of ground and allowing the beds to remain too long. I have had an enormous crop, and of splendid quality.

Vegetables have been and are still very good, although a dry season like what the present has been is not good. If a garden is deeply dug and well manured, there would be less watering required and fewer failures. Cauliflowers have been very good. Dickson's White Giant is an excellent Cauliflower; it can be harvested close, and has large white heads and very early. The early Peas were very good, but the mid-summer ones not so good owing to an attack of mildew. I believe the cause of mildew is light soil and dry weather. I have the late ones in deeper soil, and they are doing well. I grow for early Peas May Queen and William I, and for second and mid-season, Prizetaker, The Duchess, British Queen, Telephone, Duke of Albany, Matchless Marrowfat, and Emperor Marrowfat. For late I grow Laxton's Filibasket, which never fails, and Sutton's Latest of All, a splendid Pea for a late crop.—ROBERT WEDDELL.

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Buchanan Gardens.—Apples above average. Pears and Plums are under the average, the late

spring frosts here in April destroyed the blossom, especially on the walls. Pears and Plums were ten or twelve days earlier in bloom than usual. Apricots on walls set well, and there is a good crop of fruit. Cherries, especially Morelloes, above average. Gooseberries, Red Currants, and Strawberries very good. Black Currants much under average, unless in a few cases where there is no disease.

Vegetables of all sorts are doing very well. Onions and Carrots were threatened with maggot and wireworm, but owing to the late showers and sprinklings of manure and manano they were green, and healthy notwithstanding. I lost a large quantity of spring onions. Onions set maggot in spite of all my efforts to save the crop. Carrots were an extra crop. Potatoes look well and healthy as usual. Peas are doing well. Peas, earliest, Improved Invicta and William Hurst; second early, Hundredfold, Gladiator, Telegraph; general, Duke of Albany, Strategem, Champion of England; late, No Plus Ultra, Walker's Perpetual Bear, and British Queen. A. CROSBIE.

Castiewick Gardens, Dumfriesshire.—

Small fruits, as Strawberries, Gooseberries, Raspberries, Currants of kinds, abundant and good. American Brambles have set well. Japanese Wineberry also shows well. Apples fairly good crop, the usual standard varieties heavy. Pears, early varieties, good; later ones, as usual in this district, poor. Plums heavy crop. Cherries of kinds good. Morelloes on north aspect very good.

Potatoes have done well. The grub has played havoc among early Cauliflowers, Carrots, and spring-sown Onions. Autumn-sown Onions good. Beans of sorts and the later varieties of vegetables have done well. Of Peas, the earliest sowings have not done well owing to the drought.—WM. KING.

Dunrobin Castle.—The fruit crop here is good as a whole, though some kinds have cropped rather unequally. Apples notably being an unusually heavy crop on some trees, while on others there are none. Pears are under average. Plums are on some trees a heavy crop and require considerable thinning. Small fruits are plentiful and the quality will depend on the weather during the next few weeks.

Vegetable crops are unusually good this year, the frequent rains up to the present time having been all in their favour. Onions and Carrots have not suffered much from grub and should now be safe from insect attacks. Peas are unusually strong and healthy here, although some gardens in this neighbourhood they are almost a failure. The sorts I prefer are, for earliest, Veitch's Early First, Main, and Veitch's Selected Early, Dickson's First and Best, and William I; for second and third early crops, Veitch's Main crop, Criterion, Dickson's Favourite, Laxton's Supreme, Telephone and Veitch's Perfection; for late crops, Veitch's Perfection, Autocrat, Chelonian and D. Melville. The difference in the weather experienced in the northern and southern parts of the British Islands has this season been remarkable. While a long-continued drought has prevailed in the south, we in the north have had too much rain. The rainfall for March was 2.82 inches, rain falling more or less on twenty-one days; April 2.00 inches, rain falling on fifteen days; May 1.69 inches, rain falling on nine days; June 4.16 inches, rain falling on sixteen days. July, up to the 14th, has had six wet days and 1.12 inches of rain. This season has been one of the very few that we have not required to use the hose in the flower garden to establish the plants after bedding out.—D. MELVILLE.

WALES.

Cardiff Castle.—Crops of all kinds have suffered more or less in this district owing to the long-continued drought. Apple and Pear trees flowered abundantly, and most of them set well, but as the drought and hot weather increased the Apple trees got badly infested with red spider, and a great many of the fruits dropped after growing to a good size. The following varieties

of Apples are bearing fair crops, but the fruits are smaller than usual on fully-cropped trees: Beauty of Hants, Rymer, Duchess of Oldenburg, King of Pippins, Lord Grosvenor, Potts' Seedling, Ecklinville Seedling and Tom Puff. On trees of Cox's Orange Pippin, Ribston Pippin, Blenheim Orange, Lord Suffield and others bearing half a crop the fruits are much larger and well coloured. The leaves of many of the Pear trees in the gardens here have suffered from the attack of the slimy larva of the slugworm (*Selandria pyri*), a kind of sawfly, which has eaten the epidermis on both sides of the leaves, and turned them quite brown, with the result that the core of fruit in some cases is destroyed. Some varieties of Pears are bearing good crops, while others are *nil*. The following varieties, where the trees are clean and healthy, are bearing medium crops of good-sized, highly-coloured fruit on pyramid trees: they are not so good on the walls: Jargonelle, Beurré d'Amiens, Louise Bonne de Jersey, Williams' Bon Chrétien, Duchesse d'Angoulême, Beurré Superfin, Durondeau, Autumn Bergamot, Beurré Bois and Marie Louise d'Uccle. Duchess and several others are failure here this year. Strawberries were a good crop this year, notwithstanding the dry, hot weather during the time the plants were fruiting. The vineyards at Castle Coch and Swanbridge have produced excellent crops this season, and the Vines on the castle wall here are loaded with Grapes.

Potatoes are a good crop and fine in quality, but the tubers are smaller than usual. Both late and early kinds have been remarkably free from disease up to the present time. Peas have not been good here this season. They ripened off too fast on account of the hot, dry weather. Green vegetables, with the exception of runner Beans, are very scarce at present in this locality.—A. PETTERSON.

Gogerddan Hall, Aberystwith.—We have had an abundant crop of Strawberries, Cherries and Gooseberries. Raspberries and Currants a fair crop. Plums, Apples and Pears below the average.

Early Peas did very well. I consider Sutton's Al a good Pea, and as early as any I have tried and much the best in quality. Late Peas are doing very badly owing to the hot, dry weather. Onions, Carrots, dwarf and runner Beans are doing well. Cabbage doing badly.—JAMES VEASEY.

Ceold Coch, Abergav.—Bush fruit has been plentiful, but a rule rather small. Strawberries a good crop, fruit rather below ordinary size and the season short. Pears are a thin crop both on walls and standards. Apples poor. Apricots are a fair crop. Plums very good. Near the sea-coast Apples are most plentiful, as the trees did not suffer so much from the small caterpillars.

Considering the very dry season we have, vegetables have done well, with the exception of Peas and Cauliflowers. Peas have not grown to half their usual height and been very bad with mildew. My favourite Peas are William I., Duke of Albany and Walker's Perpetual. I grow other varieties, but the ones named I consider best.—ANDREW HUNTER.

Singleton, Swansea.—The Apple crop is very poor, although the trees looked very promising as regards blossom. I have got a fair crop of Pears and Plums and a good crop of Gooseberries. Red and Black Currants are poor. Strawberries looked very promising, but owing to the drought they were very poor in this neighbourhood.

This has been a very unfavourable season to test any vegetables whatever in this neighbourhood, as we have only had about 3 inches of rain since March 27. The earliest and best Potato I have ever seen is Harris's Early Gem. Early Potatoes have been very poor this season, and I think the late varieties will be poor also.—F. SURNAN.

Slebech Park, Haverfordwest.—Apples are a good crop in this district generally, except in orchards where they bloomed early. We had 6½

of frost on May 1, which destroyed all the early crops in the valleys. Pears are a fair crop and the fruit clean, even those grafted on the free stock, which as a rule are very much spotted and cracked. I find that those grafted on the free stock are generally good in a very dry season such as the present, and useless if it is a wet year. Our Quince there are always good. Cherries were a good crop, but a little grown in this county. Small fruits were a light crop. Strawberries were good, but owing to the drought went off soon. Plum crop a very light crop except Damsons, which are a heavy crop. The frost of May 1 had a rather singular effect on the Plum crops; all varieties had set a good crop of fruit, but the frost destroyed all the green, white, red and yellow-skinned sorts, but did very little injury to the black-skinned varieties.

Pear were a very unsatisfactory crop this season, owing to the drought, which has been very severe in this district, so that it is difficult to give an opinion as to the relative merits of different varieties. It was noticed that the high-class sorts withstood the drought much the best, Exonian, Huntingdonian and Autocrat being especially good and far superior to many of the varieties grown by the side of them.—G. GRIFFIN.

The Hendre, Monmouth.—All kinds of hardy fruit trees flowered freely, and the blossoms appeared to be strong and healthy. Apples and Pears, however, probably owing to the cold spring winds, have partial crops, some varieties being heavily laden, while others are a failure. Of cider Apples the late-flowering varieties are well cropped. Apricots are good both in quantity and quality, as are also Plums. Bush fruits are also generally good in crop, particularly so Raspberries and Gooseberries. Strawberries had average crops. Of the newer varieties I think very highly of Royal Sovereign. Gunton Park is also a fine variety and very distinct. The crops of Cherries excepting Morellos are light, but the quality is good. Insect pests have been unusually troublesome, and in the case of Apples mildew also; but serious injury, by frequent sprayings of Bordeaux mixture, Pare green, and quassia extract, has been prevented.

Early varieties of Potatoes are good both in crop and quality, and late ones look remarkably well notwithstanding the dry weather. Peas have been good, but late crops want rain. William the First, Earliest Marrow, and Exonian as early coppers were all that could be desired. Duke of Albany is a grand main crop variety, as is likewise Main Crop, while nothing that I have grown equals Autocrat as a late variety. Carrots, Onions, and Parsnips look well, but would be improved by rain. The same may be said of runner Beans, Celery, Beet, and Lettuces. Early Cauliflowers were very good. Early Forcing, Early London and Pearl are alike good in their way. Ellam's Dwarf Early Cabbage did remarkably well, and out of a large plot but very few bolted.

—THOMAS COOMER.

Aberdunant, Tremadoc.—There is a very fair crop of Pears. Gooseberries and Red Currants are abundant. Black Currants failed owing to the dry weather. Fair crop of Apples. Plums in some places abundant.

Very fair crop of Potatoes, especially late ones, of which I consider Magnum Bonum the best. Scarlet Runners are doing wonderfully well, also dwarfs.—J. FRITHARD.

Crosswood Park, Aberystwith.—The fruit crops in this district are not nearly so promising as they were earlier in the season, owing to the long spell of dry weather which has been very trying. Pears are much below the average and very small. They are dropping badly in many instances. Apples are better than the Pears, but will not be up to the average. Lord Suffield, Hawthornden, Lord Derby, Alfriston, and Mère de Ménage seem to be the best. Cherries were a good crop, especially on walls and where the trees could be supplied with water. Plums are about an average. Apricots below. Peaches are an average crop, but suffering from the drought. Bush fruits, including Raspberries, have been a

good crop, although the birds are very troublesome this season, owing doubtless to scarcity of other food. Strawberries were very good at first, but the season was a short one, as they were soon over, later fruit not swelling. Nuts, especially Walnuts, appear plentiful.—R. T. WILLIAMS.

GARDEN FLORA.

PLATE 1084.

TULIPA GREIGI.

(WITH A COLOURED PLATE, E.)

It is now nearly twenty-five years since this splendid Tulip first flowered in European gardens, it having been sent to St. Petersburg by Herr Albert Regel, then travelling for the Russian Government in Central Asia. The late Dr. Edward Regel called it after Herr Greig, the president of a Russian horticultural society. To those of the readers of this paper who are unacquainted with this queen of Tulips a



Tulipa greigi.

glance at the accompanying plate will suffice to reveal the truly regal beauty of this splendid child of the Turkestan wilds, although no artificial colouring, however carefully and artistically done, can in the least convey a correct idea of the glowing, flame-like colour of the grand blossoms of this Tulip. When one sees a finely developed specimen of *T. greigi*, he feels a little disengaged at the thought that the hand of man, who has carefully been working among Tulips for more than three centuries, has as yet produced nothing which can in the least match with this uncultivated, natural beauty.

The other day my collector of this and other Turkestan bulbs called on me, and gave me the following particulars about the natural habitat of *T. greigi*. It inhabits the billy steppes of the Sir Darja region, the bulbs growing among the natural vegetation, which consists of grass, plants indigenous to the steppe, such as the low-growing Rosa

* Drawn for THE GARDEN by H. G. Moon at Gravetye Manor, Sussex. Lithographed and printed by J. L. Goffart, successor to Guillaume Sevres.



TULIPA GREICI AND VAR.

berberidifolia, bulbs like *Ixiolirion*, *Corydalis*, *Eremurus*, &c. In those regions no rain falls for about five months during the summer and the steppe, which in spring looked gay with flowers and verdure, becomes parched and browned under the sun's burning rays. It is then that the bulbs of *Tulipa Greigi* are collected for sale. A small expedition is formed, and a little army of workmen, headed by the collector, encamps on the steppe in places which in spring have been marked as good hunting grounds for the bulbs. According to my collector, one may in spring ride for hours on the steppe without seeing more than an isolated specimen here and there; and then suddenly one comes on a slope which is aglow with thousands of blossoms of this Tulip. The dried-up flower-stems indicate in summer the spots where the digging can commence, but this is not easily done, as the bulbs usually get down to the depth of a foot, and the soil, being of a clayish nature, having got baked as hard as brick, a strong man working hard cannot dig more than about 300 bulbs a day, as they have to be literally hacked out of the soil by means of pick-axes. Most Tulips produce young bulbs in abundance, but *Tulipa Greigi* is exempt from this rule, as very seldom are side bulbs formed. Seed is therefore the only means of reproduction. Practically there are two strains of this Tulip; the one most commonly met with is the orange-scarlet one, the other being of a more or less pure yellow. Intermediate shades are of course plentiful, but it is no use giving all these separate names. *Tulipa Greigi* will grow and flower anywhere where the ordinary Tulips do well. In mild winters it has the disadvantage of coming up too soon and getting spoiled by cutting winds or late night frosts, but it is easy to find a remedy for this by planting the bulbs late—about the middle of November—and by giving them a situation where they are sheltered from the east and north. Now that plentiful importations have lowered its price to about a third of what it formerly cost, no doubt *Tulipa Greigi* will soon find its way into most gardens, where its unique spotted foliage and grand blooms will ensure it the admiration of every lover of bulbs.

Haarlem.

C. G. VAN TUBERGEN, JUN.

THE WEEK'S WORK.

FRUIT HOUSES.

EARLY PEACH HOUSE.—Where attention has been paid to these trees in the way of free ventilation, root-watering and syringing the foliage, the flower-buds will now be plump and the leaves well ripened, so that they are of no further service in supplying nourishment to the young shoots, and therefore may be dispensed with. To assist them in falling give the trunks a sharp tap every morning; if many of them to the ground, the sun will then soon dry the trees that are left. Do not, however, hurry them on by any undue force, as this will only tend to weaken the buds. When the leaves have all fallen, the ties, in the case of those on trellises, should be cut, while in the case of trees nailed to the wall it is far better where possible, to unloosen them, and then give the wall a good washing with some strong insecticide to destroy the eggs or larvae of any insect pests, than to follow the practice, as some recommend, of nailing the young shoots to the walls while in leaf and allowing them to remain there through the winter. It is a pleasure to see a Peach tree nicely trained, where all the shoots are in their proper place and equi-distant from each other. To accomplish this the operator must be able to see where each nail or tie is to be put, which cannot be done when the leaves are on the trees.

SUCCESSION HOUSE—or that from which the fruit was gathered in June—should still have attention, for unless the wood is properly matured the buds will fail to expand when forcing commences. See that the border is in a proper condition as regards moisture, and that the foliage is kept clean till the wood is matured. Four major trees in cool houses will now be cleared of their fruit in the more northern parts of the kingdom, but there will still be some that have not finished, particularly such as *Sea Eagle*, *Walburton Admirable*, *Princess of Wales* and the like; and should bad weather set in, it will be found necessary to maintain as dry an atmosphere as possible to give them flavour. When all the trees have been cleared of their crop every possible care should be taken to rid the foliage of any pests that may be lurking amongst them. Much of the fruit on open walls in the south will now be gathered, but what still remains must be protected from wasps, for these have been a terrible pest these last few weeks, nothing seeming to come amiss to them. Where the lifting or transplanting of any large tree is contemplated, preparations should now be made for the operation, for when left too long there is a possibility of the soil getting too wet. It is, however, not advisable to attempt lifting too soon, or before the foliage is thoroughly matured, or a serious check will begin to the tree. There is not the same risk in transplanting trees in the autumn that are growing against north walls as there is with those exposed to the sun and heat, so much destruction by the foliage. When Pease trees have to be lifted from the open walls and taken to the houses to fill up blank spaces special preparation is needed, or they will fail to respond to the heat when applied for forcing. All trees intended for lifting with this view ought to have a trench taken out the year previous about 6 feet or 8 feet from the stem, according to the size and age of the tree to be moved, and all roots should be brought as near the surface as possible, that there may be less check the following season when they are transferred to the forcing house. It is, however, of the utmost importance that every care be exercised in the work, so as not to mutilate the roots more than can be avoided. Peach trees, as we all know, are late in shedding their leaves naturally, particularly in a mild, moist autumn; therefore, it is not well to commence the operation too soon.

FIGS.—Trees in pots that were started into growth early in the season will now be shedding their leaves; to encourage them to do this more readily the soil should be kept on the dry side, but not to such an extent as to cause the plants to suffer. When all have fallen, the pots, if plunged, should be lifted, and should any require fresh potting this should be done at once. They should then be stood in a sunny position out of doors till required for starting again. Those planted in borders and trained to trellises should have their ties loosened as soon as the leaves have fallen, in order that they may be washed and got ready for starting again as soon as required. Should any pruning be required in such cases the ought to receive attention at the first favourable opportunity, as the paint may get thoroughly baked before too much moisture is applied. Trees in cool houses and those on walls will still be ripening their fruit; every precaution should be taken to keep the fruit dry to prevent it from splitting, for with the excessive rains that fell, in this district at least, during the early part of the month, there is not only a great amount of moisture in the atmosphere, but the soil round the roots will be getting soaked, which will cause a free circulation of sap. Hero we have had over 2 inches of rain in six days, which is nearly equal to the amount of the two previous months put together. From this it may be gathered that the ground is now getting moist, and being warm, the circulation of sap where trees have not been thoroughly matured will still be kept up.

NUTS, COBS, AND FILBERTS in many places will now be sufficiently ripe for gathering. The last,

especially the red-skinned variety, must not be allowed to hang too long, or they will get loose in the husk and fall out. Choose a fine day for gathering, when the husks are quite dry. They should be taken and spread out thinly for a few days to allow the superfluous moisture to pass off, after which they may be packed into tight vessels and kept in cool places. If the husks are intended to be preserved on them, this adds wonderfully to their appearance when dished up, the sprinkling of salt as the different layers are placed in the vessel will greatly assist in preventing decomposition. Those intended for use from Christmas onward should be allowed to hang as long as possible, at the same time they must be closely watched to see that none fall to the ground.

APRICOTS.—In most gardens in the south the fruit of even the latest varieties of these will now have been gathered, though in places further north some will still be hanging on the trees. When such have been removed the pruning of the trees may be taken in hand, in order that any wounds caused by the knife may heal over before winter sets in. No fruit tree more resents the use of the pruning knife than the Apricot; therefore every effort should be made to keep the trees in hand by pinching during the summer months. Where this was duly carried out, very little pruning will be needed—in fact, none, with the exception of shortening any leading shoots that may be too long, and removing any spurs that have grown too far from the wall. I am not an advocate of nailing till the leaves have fallen, as it is impossible to examine all the shreds properly while the foliage is on the trees; but if while nailing are pressing against the shoots, but if pruning is done now there will not be much difficulty in getting the other done before severe weather sets in. In pruning the leading shoots, take care to cut to an under bud on all those that are growing at an angle above 45°, and to an upper bud on those below that degree, as this will have a tendency to regulate the flow of sap; he careful also to make a clean cut towards the bud, that the knife may leave the shoot just above the same.

H. C. PRINSE.

KITCHEN GARDEN.

POTATOES.—Heavy rains came in time to help the late Potatoes as regards the weight of crop, but the quality will, I fear, be very poor owing to super-tuberation or growing out, which is very prevalent among the kidney shaped varieties, such as *Magnum Bonum*, *The Bruce*, and *The Gentleman*, which are largely grown for their disease-resisting qualities. This state of things could not of course be avoided, as such late varieties were not sufficiently forward to be lifted at the time when I recommended lifting the second early varieties, and as it has occurred frequently of late years, I have almost determined to discard from the garden all varieties that make late growth, and to grow a greatly increased number of *Snowdrop*, a variety which completes its growth early, and yet remains of most excellent quality as late as the latest of them all. The only really good quality *Magenta* I have had in recent years was sown in May last year, consequently it did not grow out, but such late planting is a risky business and not to be recommended for general adoption. After the present time but little further growth will in any case be made, and the crop should be lifted directly the weather and the ground become fit. Lifting in wet weather is unsatisfactory work, though it may not be injurious to the tubers, and should be avoided if possible. Extra care will be needed this year in using the forks, as the tubers are much spread about and the plants have become more securely anchored than usual. Given favourable weather I prefer to let stoning follow close on the heels of lifting, any lengthened exposure being conducive to diseased tubers especially if disease is already present in the haulm.

STORING.—Various methods, some of them distinctly bad, obtain in the matter of storing Potatoes. Those who have ample room in cool, but

frost-proof cellars or sheds can do nothing better than transfer the tubers to these at once, taking care that they are not placed in heaps sufficiently big to set up heating, and also that they are not bruised by rough treatment in transit, this being an especially necessary precaution with tubers that have to be kept for many months. Provided the cellars or sheds are not cool, I strongly advise clamping in preference to such storage, which would be productive of evil in more than one form. Clamping is so simple an operation that it would seem almost impossible to make a mistake in it. Still, mistakes are sometimes made, and the worst form of clamp is that in which a large square pit is dug for the reception of tubers, as in such a place, large bulk of tubers would be certain to become intermixed, while in wet weather the soil would get swamped. The better way is to select a cool, shaded and well-drained position and to make out here a portion of ground some 3 feet or 4 feet in width and long enough to hold the bulk of tubers when heaped on it in ridge fashion, making the ridge as high as possible without running beyond the allotted width at the base, and when all are in position a thickness of from 6 inches to 12 inches of dry Bracken should cover the heap, and on this again some 6 inches of soil dug out from around the heap, thus forming a trench which will keep the clamp high and dry. It is well not to be too sparing of the Bracken or any substitute which may be used, as a good coating of this will keep out frost in the severest of winters. I prefer making one long clamp for the eating size rather than several smaller ones, as each variety can be separated from its neighbour by a division of Bracken, and they may be so arranged as to come in proper rotation for use, so that the clamp need only be opened at one end when tubers are wanted. By making the clamp no wider than I have recommended I find that the use of drain-pipes or any other method of admitting air at intervals along the heap may be dispensed with, no air being required to prevent overheating.

SEED POTATOES.—These should be selected at a lifting time and placed by themselves at one end of the clamp, taking care to prevent them from getting mixed. I do not care for large seed Potatoes, those of medium size give equally good results, take less room in storing, and are more successfully and readily planted with a dibble. While waiting for the "Presto" to be made, I suggest that the present is by far the best time to buy in stock or to make exchanges of seed. Those who leave this important matter until the usual time for ordering other garden seeds will probably have them come to hand with many of their best shoots rubbed off, besides running the risk of their being frozen on the journey. At this time of the year there are no shoots to damage and but little fear of any injury.

PARSLEY.—Some time ago I advised the lifting and transferring to frames of some early sown Parsley plants to provide for the depth of winter. Where this was done it will be found an excellent plan to go over the plants now and pick off all but the young fresh looking leaves which will soon form a full crop, and be of great service when most needed. Later sown plants, as recommended by some growers to be used for frame cultivation, do not bear this picking over nearly so well as the earlier ones do, and it was for this reason that I recommended planting the latter. Where none have yet been planted in frames I still recommend that it should be done, for the old adage of "better late than never" holds good in this matter.

VEGETABLE MARROWS.—The season for these is fast drawing to a close, but fruits may be had for some weeks yet if necessary precautions are taken with them, first by having the plants, which I recommend to be planted late and in a sheltered position, covered by night, and again, by cutting all fruits up close as fast as they become big enough for use, and starting these upright and with their stems resting on some wet Moss in a cool shed, where they will remain fresh and plump for a long time. Ripe fruits allowed to come to

their full size for any purpose should also be cut whenever they can be caught in a dry state, and either hung up or laid on their sides where they can be kept dry and frost proof until wanted. The season for Vegetable Marrows has been good where the water supply was sufficient, and I have not as yet seen any signs of mildew even on the earliest plants which are still growing and fruiting freely, the heavy rain having given them a great impetus, coming as it did when the warmth of soil &c., were almost tropical.

AUERGINES.—The fruits of these are also very susceptible to injury, and the plants ought to be looked over at frequent intervals when the weather is dry, and all fruits that have become fully coloured must be picked and laid up till wanted in a dry place. Of course, this advice is not intended to apply to fruits grown under glass, in which latter case the best on the plants, which should still be fed heavily with manure water. Outside the growth made has been almost too vigorous. Varieties of the New York Purple has been most satisfactory.

CAPSICUMS AND CHILIES.—Where these have been grown in frames throughout the summer and can have the advantage of covering by night, they may be left growing a little longer, but those who have tried outside culture will do well now to pull the plants up by the roots and hang them in small bunches, head downwards, close up to the glass in a light, dry greenhouse. Plants left intact and hung thus will ripen up many fruits which are now green. Should green fruits be in request, the plants may be relieved of a goodly portion of the smallest for present use before hanging them up, as this will give the more forward ones a better chance of ripening.

GENERAL WORK.—Heavy rains have prevailed pretty generally, and it will be found that the surface soil has been beaten down into a firm state and almost impervious to air. Such being the case, it is an absolute necessity that this hard casing on the surface shall be well broken up by hoeing among all small growing crops directly the soil is sufficiently dry to crumble under the hose. No opportunity of doing this should be passed, for after alternate rains and heavy dew a really dry surface may be difficult to find. Among things that will be this surface stirring are winter Spinach, Lettuces, and Endive intended for lifting, and also any plants in seed beds, Autumn-sown Onions, scallions, and other onions amongst for the same purpose, but it is well to go through them with the hoe to check weeds. Where it is customary to save seeds of kitchen garden crops, these will need gathering when they can be caught dry enough, that is if the earliest pods, &c., are ripe. Quality is more important than quantity in a private garden, and the first ripened seeds are generally the best, but we often see these allowed to drop out before the crop is gathered. Most seeds improve after gathering if the plants are pulled up bodily and hung in a dry, airy shed for a week or two before shelling out the seeds.

J. C. TALLACK.

AMERICAN NOTES.

THE SWAMP HIBISCUS.—The Pines near the coast are brilliant now with the Swamp Hibiscus. This magnificent plant, with large show flowers 5 inches and 6 inches, and some even 7 inches across, is thickly scattered over large areas. Some of the plants bear pure white flowers, others are white with a deep crimson eye, while others have varying shades of rose and peach-blossom colour. It grows fairly well in the garden. Three or four summers ago I planted a small seedling in the border; to-day it has six stout stems with numerous branches laden with flowers, and is one of the most conspicuous things in the garden. Some of the flowers are each 7 inches in diameter, pure white, with a crimson eye.

KONSTELLEZIA.—A handsome plant, much like the Hibiscus, only smaller in every

way; the rose-purple flowers are each about 2 inches across and do not vary in colour like those of the Hibiscus. It is quite common near Wildwood, but not so abundant as the Hibiscus.

CLETHRA.—This is an unusually handsome shrub just now, the long spikes of white fragrant flowers almost completely enveloping the bushes, which are very free from insect depredators both on foliage and flower, are perfect. This shrub merits a place in every flower garden; it is easy of culture; in fact, it will grow fairly well without any cultivation. I have a dozen or more plants in my wild garden, which receive no special care, and they are now full of flowers.

TRUMPET HONEYSUCKLE is lovely, too, and combines well with the Roses, while Hypericum and Spireas also add their charm to every mass of shrubs.

RHEXIAS.—The two species of Meadow Beauty, *Rhexia virginica* and *R. Mariana*, are both conspicuous among the grasses in the damp Pines, along with *Polygala lutea* and *P. sagittaria*, while the *Lysimachias* and *Swamp loosestrife* and the pretty *Coreopsis rosea* are all here, and the flaming Cardinal Flower stands above them all. The humming-birds and brilliant butterflies collect about the flower, seemingly attracted more by its brilliancy than by the sweets it furnishes.

LILIES.—Are very showy now, especially *L. superbum*, with its great pyramid of nodding deep orange flowers, spotted on the inside with deep purple. Although it is called the Swamp Lily and grows naturally in low, wet ground, it thrives well in any position not too dry, and is especially handsome when grown in peaty soil like that usually furnished for Rhododendrons.

PIGS TUEHOOGA is clambering among the shrubs and plants, catching hold of whatever it can reach, and often rising above its more showy neighbours, laden with short dense racemes of sweet-scented dull-purple flowers.

MIKANIA SCANDENS is also climbing among the bushes with panicles of flesh-coloured flowers. The *Sabbatias* are coming into bloom; their dainty star-like blossoms thickly scattered among the feathery Grasses. They are among our most graceful wild flowers. Several species of

GERARDIA are showing now. *G. purpurea* and *G. maritima*, *G. tenuifolia* and *G. auriculata* are here, and in the drier places are found the yellow ones, *G. flavia* and *G. quericifolia*.

WATER PLANTS.—All through August the Ponds are more attractive than at any other time. Pond Lilies are still blooming, together with a host of other lovely flowers. The little Lake flower is here, and so is the widely distributed Water-shield, *Braesia pulchra*. At least four continents can claim this plant. It is common in Japan, Australia and Africa, and I have read that it had been found in South America, but I believe this is not as yet well authenticated. The curious *Utricularias*, purple and yellow flowered, are abundant among the Lilies, and the little sacks are well-laden with the entrapped larvae of mosquito, and the Droseras in the more shallow places are entrapping the winged creatures, holding and folding their leaves around them in such a way that one seldom escapes.

PEAR CLAPP'S FAVOURITE.—Mr. Joseph Meahan writes in *The Country Gentleman* that Clapp's Favourite is esteemed about Philadelphia as the very best of early Pears. This fruit should not be condemned because it rats at the core when over-ripe, as this can be avoided if one knows how to ripen it properly. The first picking in that part of Pennsylvania was made this year

before the end of July, and in late seasons it should be picked before the middle of August. The fruit is gathered in three instalments about a week apart to have a succession, and if it is put in a close closet it will be in fit condition to eat in a week or ten days. Of course it does not keep well, no early fruit does; but when ripened in this way it is a beautiful fruit, perfect, and throughout juicy and refreshing.

PEA NEW LIFE.—Mr. Carmen speaks in high praise of the Pea New Life, which he considers the most productive and valuable of its season. On July 6 the vines were 2 feet high, vigorous and of uniform growth, and the straight, tall green pods (3 inches to 4 inches long) each contained from five to eight seeds of the largest size. The Peas mature just before those of *Stratagem* and *Hervine*.

RHODODENDRON MAXIMUM IN CONNECTICUT.—There are at least three stations in the state of Connecticut where *Rhododendron maximum* thrives near the town of Milton, Litchfield County. A visit to this place when the plants were in flower gave me an opportunity to observe a truly wonderful sight. The site is a thickly-wooded swamp well up in the mountains, where for ages, apparently, there has been accumulating a peaty formation until the soil is entirely of vegetable origin for a depth of at least 6 feet to 8 feet, and so soft and yielding that the larger growth of Hemlock, yellow Birch and Black Birch, Black Ash, American Elm, Red Maple, &c., find no sufficient support, as is clearly shown by the many that have been blown down and the others that do not stand perpendicularly. I was informed that this basin does not overflow, neither is there standing water in sight, but the soil has the appearance of having grown above the water-level by slow accumulations, and now acts like a sponge, keeping moist continually by absorption.

A PEACH ORCHARD.—The great Hale Peach orchard in Georgia covers 1078 acres, 600 of which are in bearing trees, and the remainder in nursery stock. There are avenues running north and south through the orchard 500 feet apart, with a cross road every 1000 feet. There are two large packing-houses 100 feet long and 40 feet wide and two stories high, and a lodging-house or hotel has just been built for the helpers. Last year 400 helpers camped in barns, wagons, tents, &c. At picking time about 500 men and women, chiefly coloured, and seventy-five horses and mules are employed, while fifty men and thirty mules are employed the year round. At the lodging-house rooms and beds are free, and board costs 2 dollars 50 cents a week, while families and parties can furnish their own food and have it cooked for themselves if they choose. This year the curculio attacked the Peaches, and Mr. Hale waged prompt war upon the insects, jarring the trees and catching the insects in sheets tacked to light semi-circular hoop frames. Two of these were brought together about a tree which was struck by a rubber-padded club, and the insects which dropped were then thrown into buckets and carried by boys to barrels in wagons and drawn away to be burned with the stung fruit which dropped with them. Fifty men were busy for nearly two months, from April onward, at this work.

TWO WATER LILIES.—We have received from Mr. William Tricker flowers of *Nymphaea Sturtevanti*, which was figured in this journal, vol. vii., page 354, and also of *N. O'Marana*, which we described in our last volume, page 95. The latter flowers are considerably larger, being nearly a foot across, with heavier stems and of a pink so deep as to be almost red, but since the petals of this flower grow darker with age

they may have been originally of no richer colour than those of *N. Sturtevanti*. Altogether the new Lily seems an improvement upon its parents—it is a cross between *N. dentata* and *N. Sturtevanti*—especially since Mr. Tricker says that it is more free-flowering, that it grows more freely, and, in fact, quite as freely as any other plant of its class.—*Garden and Forest.*

KITCHEN GARDEN.

WINTER CUCUMBERS.

GROWING Cucumbers in winter is no mere child's play, and very many lacking the needful convenience have been sorely disappointed at the results of their first attempt, imagining that such a rampant subject, which in summer makes far more growth than is desirable, can during the short days of December and January, and under the influence of a leader sky, be induced to make satisfactory progress, and that too, under ordinary treatment. Leaky, draughty, badly-heated houses are utterly useless for the purpose, and from such I have seen more than once plants pulled out by Christmas and consigned to the rubbish heap. The plants, if the weather has been very severe, have had a struggle for existence in spite of hard firing, covering the roof glass with litter every evening to save the expense of blinds, and blocking the doors up with garden mats, the hot-water pipes, far too few in number, being heated to an injurious degree in order to maintain a night temperature of 60°, the combined labour and worry being a hundred-fold greater than the value of the few inferior fruits which were produced. I quite agree with "A. W." that for winter Cucumbers a pot is preferable to an ordinary elevated structure, as being not only a heat economiser, but also a moisture retainer, escaping in a great degree draughts and unfavourable climatic influences generally. The roof should consist of fairly large squares of glass, so as to admit all the light possible to the plants during the dull, dark days through which they have to pass. Then as to heating, the penny-wise-and-pound-foolish policy adopted by so many, of furnishing the house with only half as many pipes as are required, and which, perhaps, might answer very well if the house were started in March, is disastrous for mid-winter forcing, the burning pitch at which the pipes have to be kept on extra cold nights depriving the house of every bit of moisture and encouraging thrush and red spider, to say nothing of the wholesale and extravagant waste of fuel which such an arrangement incurs. I prefer leaves for placing next the slab covering the pipes in the bed to squares of turf which some employ, a depth of 9 inches or a foot answering well. They retain the moisture well, and the lower roots which enter them are not so liable to injury during times of extra sharp firing should an insufficiency of water by chance be given. The mixing of the compost also requires more care at this season, a rough, porous one being necessary, so as to allow of a free escape of superfluous water and prevent a compressed condition, which is more liable to occur in winter than in summer, when owing to a more vigorous growth roots are produced in far greater abundance. A good fibrous loam cut in pieces the size of hen's eggs, pieces of sandstone, charcoal or old mortar rubble in the proportion of three parts of the former to one of the latter, adding no animal manure, is the best. The practice of planting, that is, with the base or collar of the plant

higher than the ordinary level of the bed, is likewise commendable, as if occasional top-dressings are given later on and watering is not very carefully carried out basal rot or canker is very liable to occur. Where there is convenience it is well to have two lots of plants, one forlyeding fruit say during December and January, and the other sowing say three weeks later for continuing the supply through February and early part of March, or until the spring-sown lot comes into bearing. Let the plants come on very gradually, ignoring the idea entertained by some that a night heat of 70° during winter is imperative if success is to be achieved; 65° on very mild nights, when the pipes have not to be heated beyond lukewarmness, and 60° when by reason of frost more pressure is necessary, is ample. A higher standard than this a rule will soon bring a colony of insects. To water with accuracy during winter, the soil of the bed should be examined, and when necessary moisten thoroughly from summit to base, and not by driplets. Air cautiously, but do not scruple to admit a chink on sunny days even in midwinter, as its effects on a debilitated growth are wonderful. Syringe only on fine days and then at 1 p.m. to let the foliage dry before night, a little clarified sulphur water applied once a fortnight will greatly aid in keeping away spider. The great thing, where there is only one winter batch, is to grow the plants gently through December and January, taking from them only just as many fruits as are required for use, then with brighter days and increased heat an improvement will soon be visible. I have sometimes during February layered the lower stems of Cucumbers which had done duty through the two preceding months into the soil and secured them with small wooden pegs, when a colony of new roots emanated from the joints, and the plants took a new lease of life. Root blinds for night covering should always be used, in fact are almost indispensable. "A. W." mentions the advantage of pot culture over the planting-out system for winter batches, which I also have proved, but where, as is often the case, through an insufficiency of labour, things cannot always be attended to at the right moment, the planting-out system is, I think, the safer. As to varieties, Sion House and Telegraph are as good as any.

J. CRAWFORD.

Peas Autocrat.—I think it was "J. C." who at different times in these pages advised the extended culture of the above Peas, and I am pleased to be able to verify his opinion of its merits, as this season, one of the worst on record in my case as regards main-crop and late Peas, Autocrat has been most satisfactory. There are now so many excellent Peas, that one is chary of bringing a variety prominently into notice unless it is extra good. When cooked it is of a bright green. It is a 4-foot Pea, of exceedingly robust habit and much branched. This latter adds to its long bearing qualities. As regards flavour, I do not know of any better variety. For July and later supplies I would strongly advise its culture, but it should be given ample space. I hope such a good main-crop variety will be kept pure.—G. W.

Harvesting Onions.—On expressing surprise at the advanced state of ripeness of a large bed of spring-sown Onions at Leadenham Hall, and asking Mr. Mackelvey to account for it, he replied that the secret lay to a very great extent in the varieties that are grown, although general management of course had something to do with it. He believes in such sorts as Nuneham Park, James' Keeping, Veitch's Main-crop, and Bedfordshire Champion. These naturally thin-necked sorts, if grown in a not too stimulative situation, and moderately thinned out, will, as a rule, be ready for pulling early in September at the latest, while many of the later introduced varieties, which grow

much larger and have thicker, sappier necks, grow on even into October, unless forced as it were into premature ripeness by artificial means. With these old reliable sorts the best use may be

to manure too heavily in the cultivation of both show and fancy Dahlias, but it will not often result in such excessive growth as in the case of the Cactus section. Full exposure to the sun

is a decided advantage in securing a sturdy habit, whilst at the same time the plants should be grown at a good distance apart. If grown in lines and staked in the usual manner, 5 feet from plant to plant is quite close enough; this will allow of none too much room for proper development. Those who grow for exhibition allow as much as 6 feet apart each way when in beds. For ordinary uses this is too much, as it leaves the ground between each plant quite bare for some considerable time.

Personally I much prefer to grow these and the decorative Dahlias, which must not be confounded with the true Cactus varieties, as fence plants, or by training the growth flatwise, as with Raspberry canes in rows. I find this is a much better plan for displaying the flowers, as it is also for thinning out any superfluous shoots. A

temporary fence for the plants can be easily provided by allowing one stake to each plant as a start, afterwards inserting four more between each one in either one or the other direction, preferably so as to allow the intervening alleys to run as nearly as possible north and south. Tarred string fixed throughout in sufficient quantity to allow the tying to be done easily should be provided, after which the tying is an easy operation, the fan shape of training being adopted so as to cover all possible space. Wire fences have, however, all in their favour for this method of cultivation, no provision in the way of stakes being needed, whilst in such positions there will be an abundance of light and air playing on the plants from both sides to their distinct advantage. Thus secured, too, there is no danger, or but little injury from high winds to either foliage or flowers. An excellent effect is produced by training in this way; even Juarezii itself is seen to much better advantage.

To succeed well with Cactus Dahlias the soil should not be heavily manured. Too much manure will be conducive to a rank growth, such as will not in most cases result in a profusion of flowers. A moderate amount of manure only should be used, and this had better be well incorporated with the soil during the winter or early spring months. It is possible

of saving in watering. When the first flowers begin to show colour a moderate application of fish guano will be a great assistance—not too strong a dose, or its effects will tend towards too leafy a growth. Thinning the shoots, more especially superfluous shoots, from the base or centre of each plant should be carried out freely and without fear, whilst the lateral buds should also be removed when extra large flowers are needed, as for exhibition.

Propagation is the same as for other Dahlias, cuttings being preferable to the old stools in nearly every instance (Mrs. Fearn is an exception, in which old stools yield the best blooms). As in all other Dahlias, the earwig is the most troublesome insect to contend with, the usual modes of capture being adopted. I have noted in the after treatment that when well rooted in small pots (singly, of course), a shift into 6-inch pots is a decided boon, so as to secure a strong plant by the end of May, when planting out is usually safe after gradually hardening the plants off in cold frames.

I alluded at the commencement of this article to the improvement effected both in the habit of growth and in the varied colours now to be seen. The habit of growth is a decided improvement upon that of the old Juarezii, and it is earnestly hoped that we shall soon have all shades of colours represented by the splendid habit of Matchless and of Mrs. Barnes, both of which throw their flowers well above their foliage. In point of colour nothing better as a pure soft yellow could be desired than as it is seen in Lady Penzance, or the beautiful combination of light pink and white as in Delicata. The many pleasing shades now to be found leave scarcely anything to be desired. Growers should now direct their attention towards securing the better habit rather than anything else. Before passing away from the Cactus



Dahlia (Cactus) *Frances Humphries*.

made of the ground at command, 12 inches between the rows being quite sufficient. A moderately, but not excessively heavy dose of manure, firm ground, shallow sowing and no after feeding are Mr. Mackelvie's principal points of culture. A cool dry storage is also given, the cooler the better, a few degrees of frost occasionally not being injurious, decay in winter and starting into growth in January being almost unknown, good sound bulbs being often forthcoming when the spring-sown Onions are fit for drawing. To further show the wisdom of the above selection of sorts, and of the treatment given I may mention that the soil of Leadenham Gardens is anything but a light one.—J. C.

FLOWER GARDEN.

CACTUS DAHLIAS.

SINCE the advent of the Cactus Dahlia—as represented by D. Juarezii from Mexico—there have been most distinct advances from point of colour, and also in the habit of growth. Juarezii, which is the undoubted type of a good Cactus Dahlia as a flower, is not of itself a good habited plant by reason of its excessive growth, this predisposing it to hide its flowers in the dense array of foliage; thus when grown under the ordinary condition of Dahlias it does not produce a good display, hence an unfavourable impression has often been made beyond any question. Juarezii is still grown by those who exhibit, and also by others who have succeeded in overcoming in some measure its mode of growth.

To succeed well with Cactus Dahlias the soil should not be heavily manured. Too much manure will be conducive to a rank growth, such as will not in most cases result in a profusion of flowers. A moderate amount of manure only should be used, and this had better be well incorporated with the soil during the winter or early spring months. It is possible



Dahlia (Cactus) *Bonnet Goldney*.

until well established and growing freely watering must be closely attended to, and afterwards, even when the weather is dry, as during the summer now drawing to a close. To starve the plants in withholding water will not give good results. A mulching is beneficial, most decidedly, upon light soils, being, too, a means

Dahlia in its now accepted form as distinct from the decorative Dahlia, with flat petals or florets, it should be noted that there are several of the latter that are well worth growing, and for which the same cultivation is applicable. The most recent addition to Dahlias as a distinct type is the single Cactus, the value of which

for decoration in a cut state is only just being appreciated. They are quite unique in their way as cut flowers, whilst the great freedom with which the blooms are produced makes all amends for their somewhat fugitive character. As in the case of the ordinary race of single Dahlias, the seed-pods should be persistently picked off so as not to exhaust the plants in that direction. The single Cactus Dahlias, strange to say, have in nearly every case the excellent habit of producing their flowers well above the foliage. The past few meetings of the R.H.S., the N.C.S. and the N.D.S. have been prolific in new varieties of true Cactus form, whilst of the decorative Dahlias, as known by their flat petals, but few have been shown. This is a step in the right direction, for the former are certainly of the two much the better.

VALUE FOR CUTTING.

For use in decoration Cactus Dahlias require somewhat careful selection, and, still more, careful manipulation. Undoubtedly the most successful and the most effective method of using them is in large vases suitable for corners of rooms or for hall-tables. No other style is so well adapted to the display of these handsome and showy blooms, which may easily become heavy and clumsy if arranged in small receptacles. This does not apply of course to the single Cactus varieties. For bold and free arrangements it is absolutely essential that the flowers should have long stalks, and, as in the case of Mrs. F. Fell and frequently of Robert Cannell, the stalks droop too much, they should be neatly wired. These heavy drooping blooms last longer if so treated, and are much easier to handle. Tinted foliage and ornamental grasses are particularly well suited for use with Cactus Dahlias. Bronze tips of Berberis Aquifolium, trails of variegated Honeysuckle, young Oak shoots, the golden Euonymus and almost innumerable other kinds of leaves and shoots will at once suggest themselves. Any kind of grass is at once suitable and beautiful, and greatly adds to the effect. *Poa aquatica* is excellent for large vases. For smaller vases and for bowls it is by far the best plan to gather small or only partly developed blooms, and to avoid such varieties as Gloriosa, Mayor Haskins, Fusilier and others, which always bear such huge flowers. For ordinary use in house decoration my favourite varieties are Harmony, Countess of Gosford, Countess of Radnor, Lady Penzance, Bertha Mawley, and small blooms of Matchless, Robert Cannell and Mrs. Barnes. Plenty of others could be mentioned, but these few will suffice as examples. I have just arranged in a small bowl some young blooms of Matchless with others of the beautiful Harmony, the whole duly finished with Asparagus phoeniceus and several different ornamental grasses. The effect is strikingly rich, yet very graceful. Perhaps no two kinds blend more perfectly than those just mentioned. Robert Cannell and Lady Penzance also make an effective group. Now we must consider the single Cactus Dahlias—by far the most beautiful of all Dahlias for decoration. They are charming if used alone, and equally so if mixed with the single kinds or with the ordinary Cactus varieties. They are most graceful; their colours are pure and lovely, and they have almost without exception long, stiff stalks. If care is taken to select very young flowers they will last in water for days. Brenda, the best yellow, and Queen Mary, a pure white, make a very delicate-looking arrangement, and for an *épergne* they combine admirably with the Cactus forms Harmony and Mrs. Barnes. Novar, a lovely ruby-col-

oured flower, is effective, and looks particularly well mingled with Evelyn, a pretty rosy lilac single. Sir Walter is also good for cutting, and is best arranged alone. The same may be said of Ivanhoe. All these varieties are greatly improved by the addition of grasses.

Perhaps at this time of the year I may mention the great value of Dahlias of all kinds, but especially the large Cactus varieties, in church decoration. Arranged on frames in exhibition style they are most useful, especially in a building that is somewhat difficult to decorate effectively. They are excellent, too, for devices in ecclesiastical work, as they do not fade quickly when not placed in water, and they are bold enough in character to look well at a considerable distance.

VARIETIES.

The following will be found to be a fairly complete list of the best Cactus Dahlias. It includes none which are not recognised by the National Dahlia Society as being of the true Cactus type. I will not describe those which have been exhibited for the first time during the present season and which will be distributed next spring, as they have recently been described in the columns of *THE GARDEN*. These latter include some of the very finest yet sent out, e.g., Starfish, Cycle, Keynes' White, Mrs. Leopold Seymour, Iona, Chas. Woodbridge, and Fantasy.

MATCHLESS.—The appropriateness of the name of this variety is well merited.

The colour is rich velvety maroon.

The flowers, which are borne

in the greatest profusion, are usually of a nice medium size.

Height about 3 feet.

AFOLIO.—Colour rich crimson-scarlet.

The flower is an improvement on Juarezzi, but it does

not last sufficiently long in perfection.

The plant will be more free-flowering.

Height 3 feet.

HARMONY.—Colour reddish bronze, shading to

yellow. Petals well pointed and long.

Flowers of medium size and produced in fair quantity, but not always out of the foliage.

Height 3 feet.

COUNTESS OF GOSFORD.—Similar to preceding.

Flowers smaller and paler; growth also stronger.

Height 4 feet.

LADY PENZANCE.—One of the finest yet raised.

It is without question the best yellow, but, unfortunately, the flowers hide themselves in the foliage.

Height 4 feet.

GLORIOSA.—This variety is rather too tall, attaining even to 8 feet.

The colour is crimson-scarlet. The petals are long and exquisitely twisted.

A splendid exhibition variety.

ROBERT CANNELL.—This variety is still one of the best.

Colour magenta. Petals well pointed.

Flower of medium size.

Height 4 feet.

The only points which can be urged against this first-rate

variety are that the flowers are not borne upright on the stems and that the colour is somewhat

bleached by the sun.

JUAREZI.—This favourite old variety is too well

known to need description.

PURPLE PRINCE.—A neat variety, dark purple

in colour, the small flowers produced in great

numbers.

COUNTESS OF RADNOR.—Medium flowers of a

lovely and distinct shade of colour, salmon, rose,

and pink well blended.

Flowers produced in large quantity on short stems beneath foliage.

Height 4 feet.

MRS. BARNES.—A desirable variety, free-

flowering, and of good habit.

Height 3 feet to 4

feet. The flowers, perhaps a little large in size, are

of a pale primrose colour, shading to pale pink at

the tips of the petals.

MISS V. MORGAN.—The flowers of this variety

are small, orange shading to pink at tips of petals

and produced too frequently beneath the foliage,

though not on very short stems.

Height 4 feet.

DELICATE.—One of the prettiest and most di-

stinct varieties.

On the exhibition stand, almost white at base of

petals, shading off to a most beautiful pink at the

points. The petals are long and narrow. Un-

fortunately, the blooms are rather hidden by the foliage. It is somewhat difficult to propagate from cuttings. Height about 3 feet.

MAYOR HASKINS.—This variety is somewhat similar to Gloriosa as regards the flower, but the habit of growth is quite different and not altogether desirable. Height about 3 feet. Colour bright crimson-scarlet, about two or three shades deeper than Gloriosa. The Cactus form of the flower is not so constant, and sometimes inclines to become coarse.

KYNERITE was one of the earliest introductions amongst the modern Cactus type, and it still retains its place in the select list. It is very free-flowering and scarcely ever shows a green eye. It may be considered as an improvement on Juarezzi. The colour is vermillion, darker and richer than that of Juarezzi, the habit good. Height about 3 feet.

ERNEST CANNELL.—Flowers orange-red, thrown right above the foliage on long, stiff stems. The form is somewhat coarse and unreliable. Not free-flowering.

BERTHA MAWLEY.—A lovely variety. Flowers produced in great quantity. Height about 3 feet. Colour cochineal. Flowers of medium size.

BREATHA OF ARTUNDIL is a sport from Juarezzi, which it exactly resembles in every particular except colour, which is crimson, shaded with purple.

Mrs. A. PEART.—This was introduced as the first white Cactus; it is however not pure white; the creamy tinge is quite unattractive. The first flowers of the season usually come good, but the later ones have yellow eyes. The height is from 3 feet to 4 feet, the habit fairly good.

Mrs. F. FELLI.—This variety is also a white Cactus, but it often has a decided lilac tinge, particularly on the reverse of the petals. It is obtained white by heavy shading, when the centre may appear greenish. It is free-flowering, but the flowers drop off and hang towards the ground.

MRS. MONTEITH.—A magnificent fiery crimson-scarlet flower of splendid shape and of medium size; good for exhibition. The plant is of fairly good habit. Height about 4 feet.

MRS. WILSON NOBLE.—This is a new variety, very free-flowering and distinct. Flowers of good shape, pinkish-salmon in colour, and of medium size. Height from 3 feet to 4 feet.

BEATRICE is another distinct variety, the colour pale rose. The centre of the flower tends to show a green eye and the central petals are too flat.

EARL OF PEMBROKE.—This seems to be a favourite variety. The florets, very long and peculiarly arranged, are of a plum colour, deeper towards the centre. The habit is good and height about 4 feet. I cannot understand the popularity of this variety; its colour is most unattractive.

HENRY STEDWICK is a new variety of distinct merit, the colour deeper than that of Mrs. Monteith. The petals are twisted in a peculiar manner.

The following is a select list of the best single Cactus varieties. Each of those mentioned can be relied upon for quality. The height is about 3 feet in each case, except Brenda, which is not much more than 2 feet. The race as a whole is very free-flowering, and one or two dozen flowers can almost always be gathered from a single plant. Meg Merrilles, however, is an exception in this respect.

BRENDA.—Yellow, petals of splendid shape.

QUEEN MARY.—White, with pale yellow disc.

NOVAR.—Purple and magenta; large bold flower.

IVANHOE.—Colour rose-lilac, with dark crimson band round centre; very pretty and distinct.

SIR WALTER.—Colour bright rose mauve, with red ring round centre.

MEG MERRILLES.—Clear yellow, a pretty flower quite distinct from Brenda.

ARYCLE is a good crimson variety.

DRYING LILY BULBS.

BEING anxious to find a cure for the *Lilium candidum* disease I last year treated some bulbs after the manner advocated by "E. J." (p. 67). The baking process, although it certainly shrivelled the bulbs, did not apparently affect their blossoming, as they flowered well, though the stems were shorter and the flowers rather smaller than usual, owing to the drought. There was no sign of disease, but this has been held in abeyance during the present season to such an extent by the extreme dryness of the atmosphere and absence of rain, that it may be well not to attribute their immunity to the sun-drying without further trial. No one would, I imagine, take up bulbs that were in robust health and satisfactory in every way for the purpose of subjecting them to treatment presumably fatal to their well-being, but should the plants become an eyesore on account of their diseased condition, he is the wisest man who tries every remedy, however contrary to nature some of them may appear, that in one of them he may find the cure which has hitherto eluded him and others. I have used Paris green, sulphide of potassium, and permanganate of potash, sprayed on to the plants with a fine syringe, but without effect, though I have been told by others that they have been able to check the disease by these fungicides. Where *Lilium candidum* is grown to any extent a bad attack of the disease is disastrous, since, at the time when the flower garden should be at its loveliest, it is rendered unsightly by the evidences of wholesale death and decay. Unfortunately, my experiences and those of several acquaintances have been opposed to Mr. Eurrell's (p. 149), in that I have again and again seen every stem in a large plantation leveled by the disease. I have observed that in a wet spring the Lilies look particularly healthy until the buds are well formed, then the well-known browning and curling at the tips of the stem-leaves commence; then, about a third or half way up the stem, a dark blotch appears, which rapidly spreads until the stem tissues rot and the flower-head falls prone. In dry seasons like the present, the disease seems chiefly confined to the leaves. I am certainly of opinion, from reasons that I have given from time to time in THE GARDEN, that the foliage of imported bulbs is more easily affected by the disease than is that of those that have been grown on from year to year in English gardens. Why this should be I cannot say, for, as far as I can learn, this Lily in the south of France, from whence the majority of our importations come, is remarkably healthy. I can bear out "E. J.'s" statement (p. 171) that the drying up of Lily roots does not necessarily lessen their flowering powers, for one of the best batches of *L. speciosum* that I have ever seen in pots was produced from bulbs that had remained unsoiled in a shop till the early spring. They were then placed five in a 9½-inch pot, the bulb at the time being mostly shrivelled, three or four up to ten centimetres in each pot, many of which plants reached a height of 4 feet and flowered very freely. As there were a dozen pots in all, and all were equally satisfactory, this instance seems conclusive evidence that, in some cases at all events, drying does not entail loss of vitality.

S. W. F.

Salpiglossis in the flower garden.—How beautiful this lovely annual is this season, the varied colours reminding one of Gloriosas. The dry season has not affected it in the least. The soil, however, is deep, rich, and sandy, and this, I think, is one of the secrets of success in producing the Salpiglossis to perfection, as I have noticed on heavy soils the plants die off and the colours are not very bright. In the flower garden I have a bed quite 12 feet over, with two outer bands of *Iresine Lindenii* and *Veronica Andersonii* variegata, and the effect is beautiful. The seeds are best sown early in March, in a box which is placed in gentle warmth, the seedlings being pricked out into other boxes directly they are large enough to handle. This latter is very essential, as the Salpiglossis is very tender in its

earlier stages of growth, quickly damping off. The plants should be lifted carefully with a ball and planted out at the latter end of May or early in June, when they will grow away without a check and branch freely.—A. YOUNG.

Nymphaea Mariacea chromatella.—"Medway" does not say in what sort of water his *Nymphaea* is growing. With me this sort is very free flowering. The first year I had it, it began to flower soon after it was planted and kept on till frost stopped its growth. This year it began to bloom at the end of May, and is still flowering well, although the flowers now are not so large as a month ago. Perhaps "Medway's" plant is in very cold water or where it gets too much shade. All the *Nymphaeas* like the full sun.—WILLIAM TOWNSEND, *Southurst Lodge, Wokingham, Berks.*

Carnation Raby Castle.—My experience this season with this Carnation is directly opposite to that of your correspondent, "H.C.P." (p. 181). It has failed utterly, some dozens not producing one

duration, as it proved such a bad and persistent pod burster. It used to do remarkably well in the neighbourhood of Great Yarmouth, the moist sea air seemingly suiting it, as indeed it does Carnations generally, in spite of the soil being rather sandy. *Gloire de Nancy* is less liable to pod-splitting in a cool, moist, well-drained soil.—J. CRAWFORD.

Coleus Distinction.—This is a very striking variety, and is used with fine effect at Strathfayre. Single plants bearing not only large, but intensely deep maroon-coloured leafage, stand out with marked effect amongst plants that give pale hues. It may not be suitable for massing, as it would hardly stand pinching, but for dot plants it is very fine and well worthy of wide cultivation.—D.

Fuchsias outdoors.—These are very ornamental in vases outdoors, flowering from the time they are put out in June till the end of September. I have had them a mass of bloom as late as the middle of October. Another way to show



Flowers of Dahlia Juarezii in a jar. (See p. 234.)

good or even decent bloom, though it was layered early in August, grew away freely into nice strong plants, and looks as well as any in my collection, which extends to about 2000 plants. Had it not been known, it would have been consigned to the rubbish heap after its behaviour this season, which has made me rather hesitate before sending to the same place one or two promising seedlings of "unfulfilled renown," for it shows how wrong we may be in condemning a flower on the evidence of a single season. Some few other Carnations known to be good ones also failed in a great measure this year, among them Crimson Clove, though none so utterly as Raby Castle.—R. P. S., *South Hampshire.*

Carnation Gloire de Nancy.—Reference was made in the issue of August 27 to this large flowered, white Clove-scented Carnation. I remember it first being sent out and the praises which greeted it, it being found to possess a very vigorous constitution, and not liable to die off like the old crimson clove. Market growers also grew it by the thousand, but its popularity was of short

these beautiful plants off is to plunge them in groups on the lawn, letting the grass just hide the rims of the pot, and putting them sufficiently wide apart that the plants can show themselves to advantage. In this way, with a background of green trees or shrubs, they look well. Unlike Geraniums, they are not easily spoilt by rain, neither are they so easily broken by wind as some people imagine if properly secured to a good stake. I also use a great many in beds, but I do not much care for them in a mass, as they do not show off their flowers nicely. I grow them with a straight stem, 3 feet high, and then form a small head. These I plant 2 feet to 3 feet apart, filling up the bed with other plants which keep just below the heads of the Fuchsias. In this way they look charming the whole summer. Many a time I have seen them one mass of bloom when all the Geraniums have been spoilt by rain. The single sorts, as a rule, flower best outdoors. A few of the sorts that do well here are Charming, Blushing Bride, Rose of Denmark, Countess of Aberdeen, Mr. King, Display, Rose of Castile,

Alba coccinea, *Erecta Novelty*, *Aurora superba*, *Dr. Matthews*, *General Roberts*, *Dr. Lancaster*, and *Cannell's Gem*. Amongst doubles are *Edmund About*, *Lothair*, *Berliner Kind*, *Mme. Jules Chevêtre*, and *Frau Emma Töpper*. These now, after a week or very heavy rains, are looking quite gay, very different from the Geraniums, which are very shabby, and will scarcely recover again this season. *WILLIAM TOWNSEND, Sandhurst Lodge, Wokingham, Berks.*

Ageratum.—Of no value for the production of cut flowers, nor for any desirable feature sometimes in flower garden plants, there is no Ageratum that can compare with Perle Bleu for effects or lines, so far as my experience of these plants goes. The variety blooms so profusely and is so dwarf-habited, that it seems to make little or no cuttings; hence it is needless to lift and pot up a number of the plants in the autumn, cutting them back, and housing in gentle warmth, and thus inducing them to break freely in the spring. Then plenty of cuttings may be obtained through which to secure a good stock of plants.—A. D.

White Everlasting Pea.—Like Mr. Crook, I find this a most useful plant. I have it growing in a semi-shaded position in the kitchen garden supported by tall branching Pea rods, which are placed to it each season as soon as growth is 6 inches high. Here it succeeds well, producing its chaste white flowers in abundance, and coming in after the Sweet Peas are past, fill their place admirably. A tall vase furnished with flowers and having a few pieces of the growth intermingled and loosely hanging down over the edges of the vase are hard to beat for delicacy at this season of the year. The roots should be mulched in spring with some good rich semi-decayed manure.—J. C.

ASTERS.

THESE showy annuals have done very indifferently in many places this season, the dry, arid atmosphere which prevailed during the early stages of their growth having been anything but favourable to them. In seasons like these careless culture soon tells in its own tale. Amateurs often err in sowing their Aster too soon and in coldding the young plants, thereby weakening their constitution in their very infancy and exposing them to the attacks of aphis. The middle of April is soon enough to put in the seed, and nothing is better than a small frame placed on a flat bed of soil. Much sloping beds used by some, in order, as they think, to catch the sun's rays better, are by no means the best for the small seeds of annuals, as they dry too quickly, rendering frequent watering necessary, many of the seedlings when in quite a young, tender state, and before being thinned out, damping off. Damping also is greatly encouraged by sowing too thickly, as the seedlings cannot be thinned out till a certain stage of growth is reached. When in a frame they should be slightly fumigated as soon as they make the first pair of rough leaves, as it is astonishing how soon green or black fly—the latter the greatest enemy of Asters—attacks them, and prevention is better than cure. Plenty of air is necessary, avoiding, however, total exposure until May comes in, when the lights should be entirely removed during the daytime, being careful to draw the lights over in case of heavy rains or thunderstorms. Sow thin and freely and press the young plants gently into the soil with the finger and thumb to firm them and encourage a dwarf, stocky growth. Planting into their permanent positions should not be uselessly postponed if the weather is tolerably fine, as the plants soon become drawn and weakly, and take to the borders or beds badly. If cutting winds or cold nights prevail, afford a temporary shelter by a rough frame and the use of mats or canvas for a time, and take care not to water the plants late in the day. The ground for Asters is best prepared some time beforehand, and although a rich root-run is needed, strong manure must not be dug in just before planting, or the plants may go off wholesale. January or February is the best time for the work, the manure being well buried and a little

friable loamy soil stirred in a few inches deep to give the roots a chance of a good start. A moderate fumigation with tobacco smoke should be given a few days previous to planting out, soaking the soil of the frame well at the same time to ensure lifting with a good ball. The beds or borders which are to receive the plants should, if not moist enough with rain, be artificially watered. A proof of the necessity of plenty of moisture for Aster is afforded by the fact that they always do best in dull, showery springs and summers. A dry time is, however, requisite when the plants are in bloom.

J. C.

FLOWER GARDEN NOTES.

In view of the fact that there are many annuals that have come well through the present season, and are even now flowering freely when the glory of many bedding plants is departed, it may be well to draw attention to a few more of the most serviceable, in addition to those mentioned in previous notes. To the *bons à faire* annuals may be added the names of several perennials that are now often treated as annuals, and the opportunity thereby of varying the display with each succeeding year, without the necessity of lifting, dividing and replanting. Wild doublettes have a tendency to bring this mode of cultivation more into favour. Many of the plants thus available are remarkable for very bright or gorgeously-coloured flowers, and as they also possess great powers of endurance, they will doubtless, together with hardy perennials, gradually oust the more tender bedding plants that one has to keep under glass for some eight months of the year. Most of the undermentioned annuals want early sowing in a little gentle warmth about the beginning of March, pricking out into frames, pits or boxes as soon as they are ready, and gradually hardening off to be ready by the middle of May. Possibly one of the most striking plants that can be utilised in this way is the Gaillardia, and from a good strain of seed one gets excellent flowers, very nearly as good as though an investment is made in named varieties. Seedlings of the current year are not quite so early, but there must much complain of in this respect, and they keep flowering until the advent of frost. The most gorgeous of *bons à faire* annuals are probably the large-flowered varieties of Salpiglossis, and from several gardens comes the report that they have made the best beds of the year. Being rather late flowering, they should be sown at the same time and treated as recommended for Gaillardias—a remark that also applies to Petunias, the large flowering varieties of which, with their brilliant colours and peculiar veining, are second only to the Salpiglossis. To be sown with the Petunias and grown along with it may be added Phlox Drummondii and Nemesis strumosa. A varied and beautiful display has been furnished for some time by Pentstemon glomeroides, sown in warmth at the end of February. The display is all the more creditable from the fact that the plants are growing in the driest corner of the garden, and, beyond one good soaking at planting time, they have had to shift for themselves. The quality is all one could desire; a score might easily be picked out that would hold their own with named varieties. Two very bright things are available in Linum and Coreopsis grandiflora, the latter, especially for bright colouring and endurance, must take rank with the best. What we have for a dry aspect and rather poor soil is a question not easily answered. If the beds are small there is nothing better than Portulaca, and very beautiful strains are now to be had. The individual flowers are much improved in size, and some eight or ten different shades are available, all of which are bright and striking.

PREPARATIONS FOR SPRING.—Where a display of spring flowers is required it will soon be a busy time, planting following close on the heels of the tender staff. So far as a geometrical garden is concerned, it is better to avoid mixtures, especially in the case of small beds, both in the matter of alternate dotting, or two kinds respectively

central and as an edging, unless it be with families supplying many varieties that can be used effectively in contrasts, as Wallflowers and Polyanthus; the latter family especially presents a charming effect when the different shades are thoroughly mixed together, and thus fortunately, possess no mind of clinging together finely. There is no danger of an effect that is jarringly repulsive. The fashion of dotting *Tatting* and *Daffodils* among the Polyanthus I do not admire, as such a style seems unnatural and opposed to the best principles of planting. There can, however, be no objection to such bulbs rising out of a dwarf carpet such as could be formed by Aubrietas in variety, *Arabis alpina*, or the variegated forms of the latter flower. Bold blocks of Polyanthus in separate colours will look well in large beds or masses of *Myosotis* or *Silene*, the two latter broken by occasional plants of a conifer of graceful habit. If Tufted Pansies are to be planted now, they may safely be placed where they can remain right away through another summer. If anything is wanted to associate with them, it can be found in *Pyrethrums*, *Antirrhinums*, or scarlet *Lobelia*; no better combinations can possibly be desired. In connection with the propagation of Tufted Pansies, or, more correctly, Pansies used for bedding, "A. D." must remember that his system of cutting the plants over in August to produce the tufted growth would necessitate a stock of all kinds in nursery beds. One does not want to cut over a portion of the fine beds while the plants are yet full of flower. Also taking the hundred varieties catalogued (I fancy this would be about the number), what proportion of these in a season like the present would give a result in the cutting over the myriad of divisible pieces each with its own rootlets? Not any more than 20 per cent. But take the true tufted type. I want to plant in October, and by this time my July cuttings are nice strong plants with plenty of roots that will furnish the beds fairly well. Could the September divisions be utilised in a similar way? Hardly, unless one simply broke the plant into some five or six pieces; if into a hundred or more, the tiny things would cut a sorry figure in the open ground, and they will move very slowly after the end of September.

GOOD THINGS IN FLOWERS.—*Helianthus annuus* var. *striatum*, or rather *grandicephalum striatum*, is unique among Sunflowers on account of the striped or blotched flowers. The latter are small, but are produced in great profusion, and the plant as a whole shows a head of rich bronze which contrasts very effectively with several of the Starworts now in flower. *Helianthus maximus* is a very vigorous variety, attaining in fairly good soil a height of between 7 feet and 8 feet, a grand plant for the extreme back of large borders, and very effective if grouped in connection with *Corylus purpurea* or *Prunus Pissardii*. Other two plants equally good at this season in contrast with these dark-foliated shrubs are *Aster pyramidalis* and *Shortii*.

LOBELIAS.—Considerable difference has been apparent this year between clumps left in the ground through the winter and plants that had to be taken up and were not planted until early in the spring of the present year, the advantage both in the matter of healthy growth and vigour being altogether on the side of the undisturbed plants. The others are not yet at their best—in fact, given a September frost rather more severe than the average, many of the flowers are hardly likely to develop. Where a bit of foliage like that of the herbaceous Lobelias is required, they should be used wherever practicable in lieu of such things as *Perilla* and *Beech*, and if circumstances permit, should be planted in autumn. A good thick mulch will keep them safely. The spaces between the plants can be dotted with *Forget-me-not* or anything of similar habit.

PYRETHRUMS.—It seems a strange time to write of Pyrethrums, but so far as foliage is concerned they are quite the best things in the garden at the present time. Although trimmed over rather

hard at the end of the flowering season, they were in consequence of the drought a long time in making a fresh start. The rain came and gave them the required start; the foliage is now beautifully fresh, healthy, and vigorous, and the beds in which clumps of the Pyrethrum alternate with Lilias and William Niel Pansies are as bright and fresh as anything we have.

Clarendon.

E. BURRELL.

NEW CACTUS DAHLIAS.

The raisers of Dahlias are producing Cactus forms in fairly large numbers, and thus they seem determined to keep pace with their increasing popularity. The taste for blooms not unduly large appears to be thought of, too, for the best of the new sorts are medium in size. Narrow pointed florets are noticeable and colour varied. I do not doubt but that in a few years the Cactus forms will, like the Japanese Chrysanthemums, for instance, almost drive other types of the same species out of cultivation. Nor should I be surprised to see Dahlias equally ragged in form as the famous autumn flower. Fantasy, a well-named red-shaded bloom, is especially light in form and pretty. Chas. Woodbridge (dark crimson) appears to be among the handsomest of Cactus varieties. Very little of it has been seen, but one striking bloom at the Aquarium the other day was much admired. Miss Webster was noted a short time back as a true white Cactus form, but later flowers run too much on the lines of the heavy-petaled type, named decorative Dahlias. These so-called white Cactus Dahlias have been too numerous and have led to no end of disappointment. Mrs. Francis Fell and Mahala Sheriff, for instance, which came with a great flourish, turn out to be heavy, dull-coloured types of the worst class. Keynes' White is by far the best that has yet appeared. This is an improvement on Mrs. Pearl, a true Cactus form occasionally, but uncertain. Bridesmaid is a light yellow bloom, well shaped, and if it will throw off a tinge of charming pink, it will prove a greater favourite than Delicate. A long flower stem was to have been a leading point with Dahlia experts in giving awards to new sorts, and as most of these I shall name which struck me as good at the exhibitions received certificates of merit. I should imagine that in each case a long stem is not wanting. Starfish is a pretty salmon-red flower. Harry Strandwick, a very dark maroon flower, is particularly handsome. Fusilier is a decided gain. I have this in flower; the colour (salmon-red) and form are all that could be desired. Mrs. Wilson Noble, pink with salmon shade, is among the most charming of all. Beatrice, a rose-coloured bloom, is very distinct and telling. I like the colours of Miss A. Nightingale (yellow and scarlet), which is a striking combination, but the flower is somewhat heavy. Princess Anne has blooms with shades of red and yellow which make up a pretty contrast. Earl of Pembroke is quite the best of a plum or purple shade, and the sort is extra free blooming.

S.

Aster Eynsford Yellow.—Last spring a packet of seed of this Aster was sent me. The seed was sown with other varieties at the end of March, and subsequently treated in the usual way, viz., pricking out and hardening off. Being a new variety, I had the plants cut out in a piece of ground by themselves, so that they might be under daily observation. Like all other bedding plants, they made but little headway for some time, owing to the heat and drought, but by watering them occasionally they were kept going until rain fell in sufficient quantity to benefit them. They have grown freely since and are at the present time in full bloom. The flowers are very freely produced, and I counted as many as thirty open on one plant. The flowers are of good size and of perfect globular form, the colour being a pleasing creamy yellow. The habit of growth is also good and not so tall as in Betteridge's Quilled Aster, of which Eynsford Yellow seems to

be a variety. The plants are also bushy and branch freely.—A. W.

Iris stylosa.—This blooms sparingly with me each year in a frame. I am told that it ought to be in very poor soil. At Cannes, where it grows and flowers well, it is in simple decomposed granite soil. At no greater distance than Nice it does not grow so freely nor flower so well. There the soil is much richer—limestone (the same is the case with *Acacia dealbata*). The finest plants and flowers of this species which I have ever seen were at Cintra, Portugal, where the soil also is granitic. What soil does *Zauschneria californica* require? I cannot get it to bloom here even in a warm, sunny situation. I never saw it do well in England, except in Mr. Thompson's most interesting garden at Ipswich.—R. MILNE REDHILL, *Harden Clough, Clitheroe.*

Japanese Anemones.—The three varieties of these useful and beautiful border perennials are now among the gayest of early autumn flowers, with a profusion of buds also that will render them attractive till far away into late autumn. Like the Eucharis among stove plants, the white variety is exceedingly chaste and beautiful with its snow-white flowers, that render it quite unique and still very helpful, by the warm, ruddy glow of their flowers, are the coloured varieties. Planted freely among shrubs and in the border they are very attractive at this season.

Zepidotrichum Ueckertianum.—This is the unwieldy name given to a pretty and innocent little crucifer with small white flowers that is now flowering in the herbaceous department at Kew. Fortunately, perhaps, it has a greater interest botanically than otherwise, so that gardeners may not shrink from its ponderous title. The plant comes from Bulgaria, and forms a somewhat thin pyramid of its inflorescence, which in part issues almost horizontally from the stem and lies prostrate or nearly so on the surface.

LILUM CANDIDUM.

That drying off the bulbs of this Lily does arrest or lessen the disease to which the plant is subject I am convinced, although I am just as certain that there is no direct connection between the bulbs and the disease. The advantage of lifting and keeping the bulbs out of the ground until autumn is that they are kept dormant during a dangerous period, while if left in the ground growth is made very soon after the flowering season has passed, and here this late summer growth soon becomes affected with the disease, which is thus carried over to the spring in a condition ready to attack the spring growth directly it appears. By lifting and storing the bulbs in a dry place for some weeks before replanting new growth does not appear till spring, and then it comes up clean and gets well forward before an attack commences. Not knowing the life history of this particular fungoid, the above is only a theory of my own, but one which has worked well in practice, and, I take it, there is nothing extraordinary in the quicker spreading of such a disease to new growth from growth on the same plants already affected than would be possible from spores deposited in autumn and lying on the cold ground all winter. Rightly or wrongly, I attribute much of the loss of flower to the autumn growth becoming affected. Lifting certainly leads to heads of diminished size, but these are better than the total absence of everything but diseased flower stems in July, which has been my lot in some seasons, a thing that still happens to unlifted clumps.

I see that a correspondent advances the theory that disease only occurs on growth from imported bulbs. This is certainly not borne out by facts here or elsewhere within my ken. The many hundreds of bulbs here have been grown from time immemorial, and no importations have taken place, so that with this as a safeguard we should expect perfect immunity. To those whose plants suffer from the disease, but who discredit

the lifting theory without trial, I say try it. Of course, it is too late for this year, as lifting must be done directly after the flowering period.

J. C. TALLACK.

Violets.—Considerable difficulty has been experienced in a season like the present in keeping the Violets destined for removal to pits at the end of the present month at once growing freely and comparatively free of red spider. I have been glad that they were put out on a north-west border where they were not so much affected by the prolonged drought. The cultural note to be remembered in connection with spider (and where it is locally troublesome) Violets are one of the first things to be attacked) is to prevent it getting the upper hand, and I find one of the best remedies is a good mulching of fresh horse droppings followed by a thorough soaking of water; the fumes of ammonia thereby generated are very destructive to the pest, and a healthy, vigorous growth is promoted. Next, in the ground the shade may be inserted round two sides of the plants, and the operation repeated in a fortnight from the first cutting. If a heap of rather stiff road sidings that has been turned once or twice is to hand, there is no better compost for filling in around the lifted plants. Well packed in with a good soaking of water to follow, and a little shade for a few days, given a spell of bright sunshine, will be all that are necessary to ensure the well-being of the plants.—E. BURRELL.

SOCIETIES AND EXHIBITIONS.

MESSRS. BUNYARD'S CENTENARY SHOW.

This show was held in the Corn Exchange, Maidstone, and was a great success in every way, as the competition for the prizes was very spirited, and five centres could such a wonderful show of fruit and vegetables have been seen. The vegetables were shown in enormous quantities, many of them of fine quality, allotment-holders and cottage gardeners combining together in most cases and sending a very fine exhibit. Fruit, as may be expected, was very fine. The collections of twelve dishes of hardy and indoor fruits were very fine, and the same remark applies to the Grapes and forced fruits. The only weak class in the show was the cut flowers, and the heavy rainfall of late had spoiled these. We have never seen such a lot of vegetables, much space being taken up in the competition for the prizes offered for the firm's specialities. The fruit was staged in the large hall, the second hall, the corridors and the smaller rooms taking the vegetables. The Messrs. Bunyard filled the centre of the larger room with a splendid exhibit. The fruit trophy car which was a leading feature of the Lord Mayor's Show in 1893 was the central object, and was worthy of the place of honour, as here were seen some of the very best fruits ever staged; the base was built up of pyramids of the best kinds of fruit, the centre Pears and Apples, the ends Peaches, Grapes, Figs. The whole was relieved with small plants of various kinds, the Perennials and various berry plants being most effective. The whole was festooned with Grapes and wreathed with small fruits in variety. Attention must be called to the grand display of fruit, the Peacock's Mortisette, Dr. Jules Guyot, Beau Mortisette, Dr. Boucquet, Clap's favorite, and Pittamaston Duchess. Apples made a grand show and were superb as regards colour. Duchesses of Oldenburg, Duchesses, Cox's Orange, Ribston, and other dessert kinds were very fine, and the cooking varieties were extra large and in great quantities, many of them seedlings not in commerce. At each end of the trophy were large collections of plants from the firm, with a fine group of fruit trees in pots, the colour of the fruit being noticeable. We have seldom seen such Mère de Ménage, Emperor

Alexander and Cox's Pomona Apples as seen on pot trees here. Cordons Pears, a fine collection of small Fig trees in 10-inch pots, excellent pot Vines (Hamburg and Foster's Seedling), with baskets of small fruits were also included.

The classes open to those in Kent and elsewhere who at any time had had trees from the show were a distinct feature of the show. The collection of fruit (twelve dishes) was a fine exhibit here. Mr. W. Jevons, in evidence to Mr. H. A. Brassey, was an easy first, his twelve dishes being very fine examples. Muscat of Alexandria Grapes were large in bunch and berry, Alicante very fine, Princes of Wales and Sea Eagle Peaches, Victoria and Lord Napier Nectarines also good, with splendid Pears, Apples, Melons and Plums. Mr. C. Earl, gardener to Mr. E. d'Avington Goldsmith, Somerhill, Tonbridge, was second with specially fine Grapes and Peaches, but other dishes lacked size. For collections of indoor or outdoor fruits, eight dishes, Mr. Robinson, gardener to Mr. W. Lawrence, Hollingbourne, was first with very fine Buckland Sweetarts and Alicante Grapes, Sea Eagle Peaches, and a superb dish of Mme. Treye Pear, and Plums. White Grapes were shown in quantity, and a few very fine dishes were staged, Messrs. Robinson and Kennard taking the leading prizes. The best of any variety came from the Hon. R. Neville, Birling Manor (gardener, Mr. Rabjohu). These were specially fine in berry, bunch, and colour, Gros Maroc being staged. Peaches were very fine, some grand fruits being staged, Mr. Woodward, Barnet Court Gardens, being a good first, having Lord Palmerston, Sea Eagle, Dymond, Prince of Wales, and grand dish of Mme. Treye Peach and Late Admirable. Second, Mr. A. Browning, Nectarines neither too good nor so numerous. Plums were excellent, both dessert and cooking. Mr. H. Relf, gardener to Mr. A. T. Killick, Maidstone, was first with three dishes. Melons were a poor class as far as quality was concerned, only a few good fruits being staged, Measr. Earl and Robinson having the best fruits in the different kinds. Pears were good and numerous. Mr. Lewis, East Sutton Park, had grand fruits of Souvenir du Congrès, Beurre d'Amansil, Clapp's Favourite, Doyenne de Boussac, Triomphe de Vienne, and Williams' Bon Chrétien. In the smaller classes Mr. Rabjohu was most successful. For twelve dishes of Apples, Mr. Lewis had both cooking and dessert kinds of fine quality, The Queen, Peacock's Nonplus, Warner's King, and Golden Noble being most noticeable. For dessert varieties, Mr. Browning had very fine examples, Ribston, Col. Vaughan, Mother Apple, Mabbott's Pearmain, Cox's and King of Pippins being all good.

Brief mention must be made of the superb collections of vegetables in the gardeners' class for eighteen varieties. Mr. Snow, Wadhurst Park, was a good first. Windsor Castle Potato, Cauliflowers, Onions, Parsnips, Beans, and Peas were very good, Mr. E. Clements, gardener to Rev. H. d'Onbrain, Westwell, being second with smaller examples. For nine dishes Mr. Kennard was a good first. There were ten collections for the valuable prizes offered to cottage garden societies and allotment-holders. This was a distinct feature of the show. Here there was no restriction of kind and members were allowed to combine together to make one exhibit, but coarseness and under-size were taken into account; the whole had to be judged for use rather than for cottagers' tables. These exhibits occupied much space and were very good, being artistically set up. The Milton Horticultural Society was first. Ightham Horticultural being a good second. Doubtless the Highham Horticultural Society had the best and choicest dish, but not quantity or usefulness; this was awarded the third prize. Cut flowers and plants call for little notice, but the vegetables in the single dish classes were numerous. Carrots especially good, Cabbages also. Salads were poor and Tomatoes not what one would expect; Barnet Court was the best type. Potatoes were good in every class and largely shown.

Messrs. Bunyard entertained a large number to lunch, and complimentary speeches were made

congratulating the firm upon the happy way of celebrating their coming into the periodical of horticultural. The chairman, Mr. G. Bunyard, replied. He said that day he had taken his son into the business, and he thanked the judges for their attention, the exhibitors for making so fine a show, and last, his employees for their good feeling and ready assistance at all times, and to them he owed much of his success.

Crystal Palace fruit show.—On Thursday, October 1, and the two following days the Royal Horticultural Society's great show of British fruit will be held at the Crystal Palace. It promises to quite up to the usual standard of excellence. Entries for competition will be received up to Saturday, September 26, and schedules of prizes may be obtained from the R.H.S. office, 117, Victoria Street. A lecture will be given each day on the following subjects: October 1, "The Importance of British Fruit Growing from a Footh Point of View," by Mr. Edmund J. Baillie, F.L.S.; October 2, "The Cider and Perry Industry," by Mr. C. W. Radcliffe Cooke, M.P.; October 3, "Gathering, Storing, and Profitable Utilisation of Apples and Pears," by Mr. John Watkins, F.R.H.S. It is hoped that practical fruit growers who attend the conference will join in the discussion.

NOTES OF THE WEEK.

Aster ptarmicoides superbus.—This is a very useful variety for August and early September, and forms a neat, compact, bushy plant that is literally smothered with its white flowers.

Aster niveus.—An excellent variety with fair-sized blossoms of good size and nearly pure white. The plant is very free-flowering, commencing in September and continuing through October. Height 2½ feet.

Dactylis elegansissima aurea.—This is the broad, golden-leaved form of *D. glomerata*. It is certainly one of the most beautiful of variegated grasses, and singularly well adapted for hanging baskets by reason of its long, gracefully drooping foliage that completely hides pot or basket.

Hippeastrum stylosum is a beautiful species from Brazil with flowers of a delicate yellowish salmon-pink (an unusual mixture of colours that may be seen by closely viewing the flowers), veined and spotted with a deeper hue. The above was recently in flower in No. 7 house at Kew.

Dahlia Gloriosa.—Those who require a Dahlia with large, distinct, informal flowers should note this. The blooms over all are quite 6 inches, the centre of the flower conical, the petals thinly disposed, revolute and ascending at the point, forming a sort of crescent, the colour a fiery crimson-scarlet.

Cyrtanthus hybrida.—There is something exceptionally distinct in the apricot-salmon hue of the flowers of this plant not usually met with among the Amaryllidaceæ, therefore the more interesting. A plant in flower at Kew recently had a scape bearing five of its beautiful and striking flowers.

Aster Amellus elegans.—Like all the varieties of the *Amellus* section, this possesses a dwarf habit of growth and a freedom of flowering not comparable with any other. This variety is about 2 feet high, the ray florets of a rich indigo-blue with yellow centre. A distinct and pleasing variety and a capital companion to the better-known forms of this group.

Crategus Pyracantha Lælandi.—The Messrs. Veitch, of Chelsea, had a most beautiful lot of plants of this at the Drill Hall on Tuesday, September 1, the plants being simply loaded with large bunches of their richly coloured berries. The abundance of its fruit appears to be characteristic of the kind, as it was equally so in all the plants shown, which were most attractive.

Wall gardening.—In the interesting article by "F. W. B." in last issue, in which numerous

plants suitable for wall gardening are recommended, it may be of interest to observe that *Eriogonum macrostachys* is naturalised on walls in four or five places in Guernsey. It is a charming plant, which grows quite easily from seed, and ought, therefore, to be worth trying.—R. I. L.

Funkia grandiflora.—A most valuable species for flowering in pots in the greenhouse, where it produced, in succession for a very long time its snow-white and fragrant blossoms. These latter are at least 5 inches long and distinct from those of the majority of this genus. In strong plants the flowers are very numerous and with several scapes, developing flowers simultaneously. It forms a very attractive plant during late summer and early autumn.

Aster linearifolius.—There are very few of the early-flowering Asters that can compare with this in its wondrous masses of starry blossoms. A single growth if cut 6 inches above ground and assuming the plant had not been grown in an overgrown border, or such as had been too thickly planted, would in itself be a perfect bush of its pleasing blue flowers. Its compact and dwarf habit not requiring staking of any kind, fits it in an especial manner for the lower garden.

Campanula fragilis.—Though often recommended as a good plant for the rock garden, it is, perhaps, far more frequently seen as a window plant. The specific name is here very appropriate, as the fragile nature of the stems, together with their short and brittle character, requires that it receive careful handling. When fully expanded, its clear lilac-purple flowers are nearly or quite flat and very showy. The true plant has a short, sturdy, stem-like trunk, and is quite distinct in this respect. It may be raised quite freely from seed.

Double Begonias.—I am sending you a box of double Begonias from seed of my own saving; they are seedlings of this year growing in a large box outside. You will notice many of the stalks of the very largest blooms are quite upright at a point I have been trying to obtain for some time. Last night's frost almost spoiled many of the largest blooms I had open. I have some hundreds in one bed, and they are very showy indeed. The rain we have had lately has left us without a perfect *Polarionium* bloom, and has seemed to add to the beauty of the Begonias.—T. GEORGE.

Campanula garganica hirsuta.—This variety is not much, or often seen as it should be, for it possesses many points of merit which render it a most useful and showy plant for rockwork for window boxes, or the like. The downy nature of its stems and leaves is at once a distinct characteristic of the plant, and when well covered with its lilac-blue flowers is very showy. Grown as a window plant in a pot it forms a raised mound-like central tuft, and from this the sprays of blossoms furnish the pot completely when well established, the flowering often lasting from June to September with careful treatment.

Cyananthus lobatus.—This is one of the most charming of seasonable hardy flowers at present in the garden. As a choice flowering plant, too, in the rock garden, which is the position best suited to it at all times, it has few rivals at its time of flowering. The flowers are of a bright purple-blue, funnel-shaped, with fine much-reflexed tongue-shaped segments, while in the throat are many soft whitish hairs. It should receive a warm sheltered spot, but such an one that a good watering may be given in dry seasons. Such bright telling bits of colour are rare, and the plants producing them are worth special care.

Helioscilia scabra B. Ladzhams.—Judged by a bunch of its flowers alone and as seen recently at the Drill Hall, this would appear a much improved form of the original species. A better idea of the true worth of such things would of course be forthcoming by cutting a full head of bloom from a plant, and as the original is such an abundant bloomer there should be little diffi-

culty in securing this. The above variety, however, as shown, displayed flowers of larger size—2 inches to 3 inches across, and of a deep rich golden hue. If as free-flowering as the type, it would make a most useful plant in large borders or the like.

The Cornelian Cherry (*Cornus mas*).—I forward you by post a small branch taken from a specimen growing at the Styche (Lady Margaret Herbert's seat near Market Drayton), covering a space of 8 yards by 5 yards and 12 feet high, the garden walk passing under it. It is literally covered with its large oval berries, of a beautiful cornelian-red colour. Its berries when fully ripe are used for making marmalade and jelly, but, beyond any useful purpose it may have, it well deserves to be more extensively planted for its ornamental character in our woodland walks and gardens, giving such a glow of colour in the long shadows of our autumnal days.—T. R. CUCKNEY.

. Brilliant scarlet fruit thick on the branches, and one of the handsomest things in fruits ever seen.—ED.

A fine *Lilium auratum*.—I purchased an imported bulb of *Lilium auratum* some months ago, selecting it from a large number of others. The bloom sent is from that bulb. Will you kindly say what it is? The accompanying bloom is the second which has opened. There are ten still to open.—ALFRED EDGAR TRUCKELL, Maxwellton, Dumfries.

. The flower sent is a wonderful variety of *L. auratum*, evidently a form of *L. a. rubro-vittatum* where the colour has not been confined to the central streak, but has overspread the whole flower, particularly the sepals, which are wholly covered. It does not show any trace of *L. pumilum* or affinity to *L. speciosum*. It is the most highly-coloured form of *L. auratum* I have ever seen.—R. W. WALLACE.

Helianthus *organicus*.—This is the tallest and certainly the most graceful of all the Sunflowers. It is also the smallest flowered species. In the garden at this season of the year, however, this plant can hold its own by reason of the distinct grace which characterises it. Large established plants will attain fully 10 feet high, the neat slender stems being well furnished with numerous linear, recurving leaves and terminating in a large spike composed of numerous small yellow blossoms. When once established the lawn can be given to isolated examples of this plant; it forms one of the most useful and beautiful as well as graceful of autumn flowering perennials. A large stool will produce twenty to thirty of its graceful stems, and these fully developed make quite a unique feature in the garden. Once well planted it should be left alone for several years.

Hippastrum reticulatum.—This shy-flowering species was noted a few days since in bloom in the No. 7 range at Kew, and I was at once struck with its delicate beauty and distinctness. Notwithstanding that I grew several plants of it some few years back in the usually prescribed method, and though they were always healthy and vigorous, I was never fortunate in obtaining a solitary flower. The pots were full of bulbs and roots and the little growth made each year was very slow. The plant—judging by the remarks of "H. P." recently in *THE GARDEN*—is not free-flowering, but the reverse; and the same correspondent adds that it should not be dried, as are the other members of the race, or, at least, the numerous fine hybrids. There is something very pleasing in the beautiful soft rose pink of its flowers that is only enhanced by its veins of darker hue, that give to the flower the netted appearance signified in the specific name.—E. J.

Schrophularia nodosa fol. var.—Among hardy perennials worthy of special attention by reason of the brightness of their foliage alone, the above plant is one of the best. Indeed, there are many places in the garden, particularly on the grass where beds are wont to be seen, in which this plant would prove of great value. So far as

its flowers are concerned, these are practically valueless, but its bright silvery variegated leaves render it very conspicuous. It is a plant of very free growth, and may be freely propagated from cuttings of the soft, young wood either in spring or in autumn. For small beds the plants may be pinched to induce dwarfness, or where larger beds occur and a taller growth is more desirable, the plants may grow unchecked. Like some others near akin, the above is fond of moisture, and in such positions makes a fine companion plant as well as a striking contrast to such things as *Lobelia fulgens Queen Victoria* or other of the cardinal section.

Campanula Balchinensis.—Some two years ago a green-leaved seedling Campanula was given to me when visiting the Hassocks Nursery of Messrs. Bissell and Sons, under the name of *C. fragilis grandiflora*, and a more desirable plant to cultivate in a pot for flowering in the greenhouse during the summer is scarcely to be named. I have quite a large specimen in an 8-inch pot literally covered with its pale blue blossoms, and it forms an excellent companion to *C. isophylla alba*. This may perhaps be regarded as a green-leaved form of *C. Balchinensis*, the latter being probably a seedling from it and persistent in its variegation. In the spring I saw young plants of it at the Hassocks Nursery exquisitely variegated, and it is satisfactory to see that it retains its perfect variegation when grown into a large specimen. When young it makes a charming charting plant, and it will be useful in many ways for decoration. The green-leaved plant in my possession appears to be perfectly hardy, and probably the variegated form has the same character. Under glass it will always be seen to great advantage.—R. D.

The weather in West Herts.—The most noteworthy features of the past fortnight have been the unbroken warmth of the nights, the persistent and heavy rains and the paucity of bright sunshine. Since the beginning of the month all the nights have been unseasonably warm; indeed, on nine nights the exposed thermometer has indicated minimum readings above 50°. Although there has been so little sunshine, the soil both at 1 foot and 2 feet deep is still about 1° warmer than is seasonal. Rain has fallen on all but two days, the total measurement being 32 inches, which is 1 inch in excess of the average for the whole month. No sunshine at all was recorded on five days, and on seven others the sun was shining for less than three hours.—E. M., Berkhamsted.

Clematis Sieboldii and Phlox Van Houttei.—I should like to know if Clematis Sieboldii (*Botanical Register*, xxix., 25, and *THE GARDEN*, August, 1882) and Phlox Van Houttei (*Botanical Register*, xxix., 5) are now in cultivation. I used to grow both, but have not seen either of them for many years and should like to get them again.

Hardiness of *Choisya ternata*.—In reference to Mr. W. Sangwin's article which appeared in a recent issue regarding the hardiness of *Choisya ternata*, I would like to bear out his statement, as we have a bush here measuring 13 feet by 8 feet, which has been planted out several years and does well with only wall protection. It is in flower now (September 15) for the second time this season. All through the severe weather of January and February, 1895, when our thermometer registered 4° below zero on one occasion, and Laurustinus, Escallonia macrantha, Sweet Bay, and Roses Bouquet d'Or and Rêve d'Or were killed to the ground, the *Choisya* survived without the least protection. Some cuttings I struck two seasons ago and planted out in different aspects against walls have also made good growth. One of these measures 5 feet by 3 feet, and is flowering beautifully.—G. J. SQUITH, Llanegwad Gardens, N. Wales.

Grub in grass land.—I am sending a grub which for the past two or three years has appeared in my grass land. The rooks in search of

this insect tore up the grass of my park by the roots and damaged the hay crop to the amount of several acres. I am anxious to know what the grub is and how to get rid of it, as the rooks have begun again to feed on it, tearing up the grass as they did last year.—C. E. J. EASDALE.

. In reply to the enclosed from C. E. J. Easdale, your grass is badly infested by the grub of one of the chafers, very probably by those of the common cockchafer; but from the specimen you sent it was impossible to say to which species it really belongs. In getting rid of the grubs the rooks are your best friends, and they will not tear up grass which has not these grubs at the roots, and though they may seem to be doing harm they are not doing so really, as the grubs feeding on the roots kill the grass. Try frequent rolling and watering with liquid manure. Folding sheep would do good.—G. S. S.

OBITUARY.

Mr. R. CURNOW.—It is with deep regret that we have to inform you of the death of our Mr. Richard Curnow, which occurred at sea whilst on his way home on sick-leave from Colombia. Mr. Curnow had been in our service upwards of twenty-two years, the last nineteen of which he had spent as one of our Orchid travellers, and he was without doubt thoroughly at home in his employment on foreign service. Some three months since he contracted a bad attack of malarial fever, from which he was recovering, but very slowly, when returning home, but succumbed to a stroke of paralysis August 25 last.—HUGH Low & Co.

Mr. Henry Knight.—We regret to announce the death of Mr. H. Knight, which occurred on the 9th inst. at Laeken, near Brussels. Mr. Knight, who had been in failing health for some years, was in his sixty-second year. He had been for several years director of the parks and gardens of the King of the Belgians. Mr. Knight at one time served under the late Mr. Wm. Thomson when at Dalkeith; afterwards going to France as head gardener to Pontchartrain, very near the head of the Seine. He remained some years in France, and on his return to England took charge of the gardens at Flore Castle, Keilor. On leaving Flore he came to Greenwich—another very interesting garden laid out by Mr. Marnock—as gardener to the late Rt. Hon. W. H. Smith. From here he went to Laeken, where many improvements were carried out by him. He was an excellent gardener.

BOOKS RECEIVED.

- "*Orchids of South Africa.*" H. Bolus, Vol. vi., part 2. Wesley and Son, Essex Street, Strand.
- Missouri Botanical Garden.* Seventh Report, 1896.
- "*The Orchid of Burmah, including the Andaman Islands.*" Compiled from the works of various authors. By Captain Bartle Grant. Bernard Quaritch, Piccadilly, London, W.

- Names of plants.**—J. S. SCAMMELL.—1, *Carex variegata*; 2, *Lycium barbarum* (Tree Plant); 3, green form of No. 1; 4, same as No. 1, but less variegated.—"A Home Book of Gardening."—G. Gilpin. *Gilia coronopifolia*, *Pearl* (*Hemerocallis elegans*, Muhl.).
—*Calceolaria*.—Yellow Rose is *Reve d'Or*; the white Mme Alfred Carrière.—*Like to Know*—1, Winter Cherry (*Phytalis Alkekengi*); 2, *Justicia carnea*.
Names of fruits.—*Rey-Pex*, 2, Belle Julie; 3, Fondante d'Automne; 5, Souvenirs de Grèce; 6, Doyenne du Comice.—J. M. BANNERMAN.—1, Apple Stone's; Pears, 1, Duchesse d'Angoulême; 2, Bergamote d'Esperance; 3, Knight's Monarch; 4, Ne Plus Meurs; 5, Châp's Favourite.

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THE GARDEN.

No. 1297. SATURDAY, September 26, 1896. Vol. L.

"This is an Art
Which does not Nature; change it rather; but
THE ART ITSELF IS NATURE." —*Shakespeare*.

CHRYSANTHEMUMS.

EXHIBITING EARLY CHRYSANTHEMUMS.

All interested in the display of early-flowering Chrysanthemums must have been disappointed with the recent show held in the Royal Aquarium. On this occasion the exhibition was made up of Dahlias, Gladioli, early Chrysanthemums, besides a number of miscellaneous exhibits, and, taken as a whole, the display was very gratifying. The directors of the Royal Aquarium provide the sum of £50 towards the prizes for Gladioli and Dahlias, &c., and the National Chrysanthemum Society, in addition to finding the prize money for the Chrysanthemum classes, contribute £10 towards the Gladioli and Dahlia classes. After a careful survey of the Chrysanthemum exhibits, one cannot help wondering whether the result which has been achieved is sufficient compensation for the comparatively large outlay of the funds of this influential society. Most of those who are qualified to express an opinion were emphatic in their declarations against such a poor representation of the useful qualities of the early-flowering Chrysanthemum. It is customary to witness each season a repetition of the exhibits of the corresponding show of the previous year, instead of additions of some of the newer sorts. But to ensure these being represented in good form, it is absolutely necessary to make the date of the exhibition later than has been the practice during the last few years. With the exception of the fine exhibition blossoms of Mme. C. Desgrange and its yellow sports, there are few sorts which are worthy of recognition so early in the season, as showing an advance in form, colour, and size. Many of the pretty little pompon varieties are very charming, but at the same time there is a large number of extremely dull and uninteresting sorts, which check rather than encourage the cultivation of the early kinds. The light of the Royal Aquarium is most unsatisfactory too, the dirty-looking brownish shade of the roof rendering it difficult to determine the proper colours of the flowers. But the chief cause of the unsatisfactory display of early-flowering Chrysanthemums on this occasion is the early date in September at which the exhibition takes place. Very few people want Chrysanthemums so early in the month, as there are so many other flowers obtainable at the time, and these are, as a rule, much brighter in colour, in character, and more varied, and consequently better appreciated. For some years the show used to be fixed about September 10, and even later, a difference of ten days accounting for a wonderful change in quantity of blossoms as well as in variety. Even at this date it is too early, a period as near as possible to the middle of the month being more likely to produce satisfactory results. Often during the third week in September sharp frosts are experienced, crippling and in many instances entirely destroying many of the hardy flowers. Under such circumstances the early Chrysanthemums are highly esteemed, and supply a gap which, without them, it would be difficult to fill. By the middle of the month it would be a comparatively

easy matter to obtain a much larger variety from which to make a selection, and an exhibition held at that time would be of a far more useful character than that we are now accustomed to see. During recent years M. Simon Délaux has sent out quite a large number of sorts which are described as early, but many of them are not early as the term is understood in this country. A few of these have been seen at the early shows of the N.C.S., but often quite out of character, through undergoing a treatment necessary to bring them into flower thus early in the season. There are, however, several which are in capital condition from about the end of the second week in September and until the ordinary mid-season varieties come into flower. The introduction of all these novelties has quite altered the state of affairs prevailing during this period; the great variety in colour, form and habit which many of these new sorts provide us with is calculated to make them highly valued if a proper opportunity of exhibiting them could be afforded.

If a display of early Chrysanthemums worthy of the name is to be repeated with the prospect of successful results, two courses appear to be open. If the claims of the Dahlia and Gladioli exhibitors are to receive prior consideration, and a date be fixed for the exhibition to suit them absolutely, the Chrysanthemum exhibitors cannot very well do better than that already accomplished, and the show, as far as the latter are concerned, should be given up unless a second show can be held. Secondly, if the interests of all are to be considered mutual, fix a date at least ten days later than the fixture of the present season, when the Dahlia growers should have little difficulty in making a thoroughly representative display, and growers of the Chrysanthemum would certainly have a better opportunity of staging exhibits worthy of being identified with a society national in its character.

A GROWER.

CHRYSANTHEMUMS—THE CALVAT RACE.

M. ERNEST CALVAT, Grenoble, France, has obtained such remarkable success in raising new Chrysanthemums, that I think the heading of this article is applicable to his seedlings. Beautiful flowers of the Japanese type were to be had before this gentleman took up the hobby, but there is no mistaking the rich gems of his strain. Take away from our collections the sorts I shall name, and mark how much the poorer we should be. Not the least striking thing about this race is their comparatively easy growth; all may therefore be successful with them without going to the trouble of any special means of cultivation. I will not go so far as to say all varieties from this source are worthy of culture; it would be wonderful if they were, considering that M. Calvat introduces about thirty new kinds each year. We can at first only judge them from the specimen blooms of French growth usually sent to the National Chrysanthemum Society, and then know nothing of the habit or constitution of the seedlings; and it is found in many cases, either from climatic change or inherent weakness, a goodly proportion refuse to reach a standard of excellence required in a variety to be generally esteemed. These seldom leave the trade collections and soon get out of cultivation. When the results of the earlier efforts of M. Calvat were first seen on this side about six years ago, there was nothing special in the blooms to warrant the name of a well-known cultivator, that a dozen of Calvats selected from the year's set are good enough to beat an equal number of sorts from whatever origin they spring. These early seedlings were of huge size, but unmistakably coarse, and I think the varieties Mme. Edouard Rey, Mrs. C. Harman-Payne, Vice Pre-

sident Calvat still deserve the term. A year or so later this was changed by the introduction of most refined and beautiful Chrysanthemums, including Commandant Blinot, Ulysse, Louise, Mme. Ad. Chastanier, Mme. Maurius Ricard, Mlle. Triphine, &c., & M. Pankoncke, President Borel, and Sauveterre de Petite Amie. All the above are well known and need not be described. Then in 1894 came Baronne de Buffières, a charming flower of a mauve-pink colour; Deuil de Jules Ferry, rich violet-rose; Mme. Carnot, the most magnificent white; Mlle. Ch. Molin, bronze-yellow of striking colour, and M. Georges Biron, rich red with a brown shade.

A year later we had Admiral Avellan, a rich yellow, but a trifling short in the floret and not a good deer; Boule d'Or, an incurving bloom of a buff-shaded yellow, and a first-rate dwarf habit; C. Harman-Payne, splendid dark crimson when first seen from the raiser, but not a good grower with me; Directeur Tisserand, a very fine flower with combined shades of crimson and yellow; Le Moucherotte, very large handsome bloom, in colour a shade of orange-red; M. Chénon de Léché, a first-class very dwarf variety, the bloom is a perfect form of the recurring type, colour a mixture of rose, white, and yellow; Reine d'Angleterre, a large bloom not unlike Etolée de Lyon without its coarse character. This is also among the short growers. Other promising kinds were introduced with those named as 1895 varieties.

M. Calvat sends out between two and three dozen fresh ones this year. They were anticipated by a few specimen flowers on view last autumn, but whether the elaboration was different from that of other years or not I do not know. The promise, however, of good things was lower than usual. One exceedingly handsome variety named Calvat's Australian Gold was among them. The raiser thinks so highly of it, that it is to bear his own name as a prefix. It is a huge drooping potted bloom distinct in its shade of yellow, with silvery back to the florets. The growth is capital, and I am looking for this to be the best new kind of the year. There will surely be others to keep up the reputation of the race when a thorough trial has been given them.

The sorts mentioned above are all of the Japanese type, of course differing widely in form. M. Calvat has raised one or two incurred Chrysanthemums, namely, L'Améthiste, silver-rose colour, and Ma Perfection, white, but as these partake somewhat of the Japanese character in growth and flower, it appears we may look in vain to this raiser for improvement in the true round-flowered type known as incurred. H. S.

SEASONABLE NOTES.

It is not difficult to point out errors of culture which may easily be practised during the final stage of the plant's growth, and which will in their turn bring disappointment at a time when pleasure is sought as a reward for many months of labour. That, for example, it is a mistake to leave plants in the open air of any sort that may be more frosty than the bulk long enough that the colour of the bloom may be visible. By so doing, although not noticeable at the time, decay is almost sure to spread as the blossoms open. The buds get so full of moisture, that there seems to be no means of drying them thoroughly afterwards. I would therefore place any Chrysanthemums with bursting flower-buds under glass promptly, but would leave those not so forward outside so long as safety permits. A time for general housing of the plants usually followed is quite the end of September or very early in the following month. Frosts are not often serious in any locality until after that period. Although I would not advise risks in the matter, I do think the bloom-buds swell not only faster, but with more firmness in the open than under glass. When protected they miss the night dews and showers so prevalent at the time named. As I

write, showers are more than usually abundant, and cause the buds to swell with great rapidity. Almost daily a few plants are put under cover. It is well as housing the plants proceeds, to be particular to cleanliness. The pots may be dealt with and dead leaves removed. We may prevent the spread of mildew by dusting the affected leaves with sulphur as each plant is shifted, and any superfluous growths should be cut away then. By previously clearing the glass structures we are certain to get rid of most pests which might be troublesome later. As to the room Chrysanthemums should have when under glass will depend upon the space at disposal, but crowding should be avoided as well as during the time they are in the open. Air and light are important items towards perfecting the flowers. Be very particular about watering at the roots—for a few days at least. That is to say, the plants may be allowed to become quite dry directly after having what appears to me a great check in removing them from a moist, open atmosphere to a comparatively dry and close one. The roots resent moisture until they have become accustomed to new conditions. This may seem a small matter, but observation convinces me of its importance, and to prevent undue distress in the leaves I would sprinkle them on sunny mornings as well as damp among the pots until renewed vigour takes place. This is indicated in the case of healthy plants at least by fresh roots rambling on the surface of the soil. After this the need for water will be often, guided of course by the weather outside and by each individual plant, if it a strong grower or a weak one. Stimulants should be necessary too, and I would continue to feed the plants up to the time their flowers are fully open.

Too much air cannot pass among the plants when first placed under glass, but pains should be taken to avoid cold draughts as the florets develop. Fire-heat for Chrysanthemums may not be required in some seasons. It is not really wanted so much for warmth as it is to maintain a dry atmosphere. The flowers lose in substance if grown in a high temperature. For this reason stated then I would apply fire-heat each night, and also in the daytime when wet or foggy. If this is done and the roots of the plants are in a healthy state, there is little to fear in regard to damping, so damaging to the blooms when grown to a large size, and therefore taking a long time to open. Shading the blooms, especially during the early part of sunny days, will prevent decay by scorching caused by the action of the sun on the petals whilst they are yet damp and cold through having passed a long dark night. Permanent shading is not advisable, for all available light is desired when the elements are dull.

I would in all cases fumigate the houses in which Chrysanthemums are stood. This should be done early, before the blooms are in an advanced stage. When once aphis gains a thorough hold amongst the florets it is not at all easy to prevent a rapid spread, but if tobacco smoke be applied (even if this pest is not noticed) directly the plants are under glass and a cool temperature maintained there is little to fear from greenfly. Instances have, however, occurred where the cultivator has been troubled with aphides when the blooms have been in an advanced state of opening and has been afraid to fumigate. There is no risk in the matter provided the material used is of an approved kind. That known as the XL All vapouriser is favoured by most growers of the autumn flower.

H. S.

SHORT NOTES.—CHRYSANTHEMUMS.

Chrysanthemum Mme. Carmeux.—This is an early flowering Japanese, the flowers at best being nearly pure white. The plant has a rather poor, thin habit that needs improving. Height 3 feet.

Chrysanthemum Norbert Parvus.—In certain stages this produces flowers of a pleasing salmony buff tone, while at others the colour

passes to a lilac tone that is not so desirable. Height 2½ feet, and very free flowering.

Chrysanthemum L'Ami Conderchet.—The golden variety of this early pompon was recently seen in nice compact plants at Westminster from Mr. Ware. The plants are identical with the original save for the rich golden yellow of the flowers.

KITCHEN GARDEN.

NOTES ON TOMATOES.

ALTHOUGH Tomatoes are grown in enormous quantities and are so popular there is a considerable number of failures. Even during the present season, which has not been at all unfavourable in the matter of sunshine, not a few complaints have been heard from market growers on a large scale as to the crops being unusually light. By this, I take it, that persons who have grown the Tomato for a number of years are not yet masters of the situation. This fruit or vegetable is certainly cultivated under so varied conditions that one starting its growth might well ask which is the proper way to proceed. One believes in giving abundance of water, another thinks the plants require but little. Some say an unlimited root-run is desirable, whilst the practice of others is to restrict the roots. Then as to cutting away leaves. At one place we find all, or nearly all, the leaves intact; in another the grower cuts most of the foliage away. A. does not trouble himself about the "yellow spot," but dreads the "black stripe;" whilst B. is beside himself at the sight of either.

In making a few remarks on my own mode of cultivation, I will not say I have mastered the subject, because there are several points in the management of Tomatoes I would like to know more about. My Tomato house is 100 feet long, 12 feet wide, with a path up the middle 2 feet wide, with side walls, so that the borders are nearly 5 feet in width and 2 feet deep. This, to my thinking, is too great a body of soil for Tomatoes, and I have a difficulty in preventing a gross, sappy growth. However firm I make the soil, there does not seem a way to prevent roots running into it. My idea is that a border of the width named should be less than 1 foot in depth, and as I intend to entirely remove the soil before another start, means will be taken to prevent roots running so deeply as they do at present. Finding last year the growth was too strong to please me, I planted more thickly this. Instead of putting the plants a foot apart in a single line to train up the roof, I allowed this season but 9 inches between them. Although planting so thickly has not been a failure, I certainly believe I could have obtained quite as heavy a crop and with less trouble by sticking to the former distance. There is some trouble in setting the flowers, and as I do not think it advisable to cut away foliage to any great extent until the fruits have swollen to a considerable size, this had to be done under the circumstances.

I fancy many failures with Tomatoes are made in the early stages of the plant's growth. At least it does not appear possible to get a nice "set" low down if the young seedlings are neglected. I make a point, therefore, of planting out quite little plants not more than 3 inches high; these, too, are from thinly sown seedlings, which are potted when quite tiny. They are not allowed to get pot-bound, and the first bunch of fruit in many instances touches the soil. Assisting the flowers to set is a matter too often neglected. This is recommended and often done

as regards early crops, but is thought by many growers to be unnecessary in the summer. I believe, however, this is most important at any time. Gently tapping the trusses of flowers about mid-day distributes the pollen in a more certain way than does the air that passes about them. This season, for example, as I have noted, has been pregnant with failures, caused, no doubt, in many instances by not taking the pains alluded to. At the same time it seems to me that very hot sunshine burns many flowers before they are properly open, and thus has something to do with an indifferent set. I would, therefore, slightly shade Tomatoes in the hottest weather, but not, of course, permanently. Thin whiting is syringed on to the glass just to break the sun's power. This is washed off by the first shower of rain, and may be renewed in a few minutes if thought desirable.

WATERING.

is, I am confident, done in too many cases in a haphazard manner. I have known Tomato plants watered through a hose pipe straight from the mains. In fact, it was done here before my time, and the fittings are still in the houses. This manner of watering saves labour, and is a sure means of getting the fungus (*Cladosporium fulvum*). What watering is necessary is done in the early part of the day, even in the warmest weather, and the water is always warmed by the sun before use. And if the morning be at all cloudy I allow the borders to become dry rather than throw moisture about. But with all this care I am not without the disease named this year. I give air during the day in abundance at the top and sides, reducing the former and shutting off the latter at night. To grow Tomatoes successfully I think fire-heat should always be employed during the night, even if the pipes be only just warmed in the brightest weather. To the want of this I attribute a slight attack of the "spot." It has, however, come late in the season when the crop is nearly gathered and the houses will have a thorough cleansing before a start is made for another year. I have tried dryness at the roots; this does not prevent the spread of the mildew on the leaves, but it does stop some of the uppermost fruits on the plants from properly swelling.

Trimming the leaves unduly I condemn. All lateral side growths are pinched out when they are in a small state, but the large primary leaves are allowed to fully develop until the fruit has swollen to its full size and puts on a white-green appearance; then the foliage is gradually shortened at the lower part of the plant, and so on every few days throughout the season, cutting the leaves away entirely as the Tomatoes reddened. The only stimulant used is soap. This is sprinkled over the borders once a week after the earliest fruits begin to swell.

BEST SORTS.

Most of us have some difficulty in knowing what sorts to grow. There are so many recommended, and yet very few really good ones. I have tried a considerable number. I do not think there is anything to equal a good selection of Perfection for weight alone, but huge size is not required by those who grow Tomatoes for sale. Sutton's A. 1 has been very fine. This sort, however, cracks badly under glass, and for that reason will not be so largely grown; otherwise it is perfect. The leafage is not dense, it is a most abundant cropper, and the fruit of medium size and nice shape. Chemin Rouge is also liable to crack; in other respects it does not appear to me to equal A. 1. A good selection of Conference has pleased me more than any. One I had, called Mitchell's Hy-

brid, is a most excellent sort—a favourite with a considerable number of growers in Surrey. The fruit is medium-sized, has a deep, oval shape, and is a first-rate cropper, early as well as late.

H. S.

Exhibiting Tomatoes.—Success or otherwise in exhibiting fruit is dependent to a very great extent on the manner in which it is displayed.

How often does one see Tomatoes heaped up one upon another on dishes, in such a way as to hinder the most careful and patient judges from ascertaining the real merits of the exhibit. Tomatoes, to show them off to the best advantage, should be regularly laid on a cushion of Moss or some other soft material, the centre being slightly raised, and if small sprigs of Parsley are worked in between the fruit, a better effect still is produced. Exhibitors have often only themselves to blame for not being placed higher up in the prize list, owing to the careless and slovenly way in which they arrange their produce.—J. C.

Planting Asparagus in autumn.—“D. T. F.” who, judging from his remarks, has never tried the plan of planting Asparagus in autumn, nevertheless condemns the practice. I can assure him,

however, that some of the very best rows of Asparagus I have ever seen were the result of autumn planting, and that one of the best in my own garden was planted at that period. I did not contend that planting should always be done at that time of year, but under certain circumstances, such, for instance, where the situation was high and dry and the soil light, and where, on account of labour being nonetoo plentiful, manuring and watering spring planted beds were likely to be neglected.

“D. T. F.” says that autumn is the time when Asparagus should be gradually going to rest, but I would point out that unlike many other things in the kitchen garden which die down at the approach of frost, Asparagus continues to make young roots, and that in good years right through the winter, especially should it be a fairly open one. This is proved when old beds are dug away with and the roots lifted for forcing in winter. As for young seedlings not producing berries the first season, “D. T. F.” will perhaps be surprised to hear that I have seen young plants raised from seed sown, say in February or the beginning of March, hang pretty thickly with berries the following autumn. Late sown seed, say in April or May, might not produce many berry-bearing plants. I well remember a row of Asparagus planted in a Norfolk garden in autumn grass from which gained first prize for fifty and second for eighty heads in a very strong competition at Kensington many years ago.—C. C. H.

We see (p. 211) how doctors differ, and my advice is, consider well the kind of soil and the amount of rainfall, and act accordingly. Doubtless “C. C. H.”’s note was penned early in August, a season there would be ample time for the seedlings to make new roots before winter. I followed his advice some few years ago in planting a lot of seedlings, with excellent results. On the other hand, I lost some three-year-old plants in a heavier soil last autumn, doubtless because root-action had ceased or nearly so. I would not advise planting in clay later than August, but at the time named and with the soil made suitable, there need be no fear of evil results and much time is saved. I have planted seedlings at midsummer in a dripping season rather than lose the plants, and they made a fine growth. Roots of Asparagus are now quite active after the prolonged drought. I notice a few new growths in young beds, so there is little fear of collapse.—W. M.

Brussels Sprouts.—How exceedingly strong, breadths of these hardy winter greens are in gardens almost everywhere, forming almost dense thickets of stems and leafage. This growth, in spite of the season’s drought, is really the product of the deep cultivation and high manuring to which the average gardeners is subjected. No doubt the consequent produce where the frost does no harm is during the winter very great, but how many of these big stems produce coarse

sprouts that are at once too large and too loose to be suitable? It is often the case that these very stout stems do not give really nice neat, hard sprouts until they begin to lose leaves and to harden their wood. In this respect there is wide difference between them and the field-grown sprouts planted by the market grower, who find from the very first to the last moment of gathering, if they have a good stock, that every sprout is of the firmest and best. Not a few gardeners who have sown a batch of plants late, and following a few Peas or some other summer crop that has left the soil firm, have found the produce towards the end of the winter, if not large, to be exceedingly good and most useful. I have always found plants grown firm, though not at all coarse, on hard soil to withstand severe weather much the best. That, again, is often a matter of some moment. Stress is sometimes laid on varieties, though there is very little indeed of real variety in these sprouts, but without doubt, good or inferior results are more often the product of culture. Nevertheless, apart from the matter of varieties, the making of good selections for future seed stocks every year is a matter of the highest importance.—A. D.

Very many growers cannot speak so well of the Brussels Sprout crop this year as your correspondent “J. C.” (p. 184). The drought extending from the time the seeds were sown until August gave the plants but a poor chance to become matured by August. The rainfall was so light between March and August that it did practically no good at all, but probably “J. C.” was either favoured with more rain or had a good water supply to give the plants when needed. I have never had any difficulty in getting a good supply of sprouts early in the autumn as they were needed from a sowing made the 1st of March. At this time last year my plants at a yard apart completely covered the ground with tall, well-furnished stems. This season the plants are not nearly so good or forward in sprouting, but there is some consolation in knowing that mine is not an isolated case. This is all the more to be regretted because of the short supply of vegetables during the past summer. The ground was dry to such a great depth that there was insufficient moisture to sustain growth without copious waterings fairly often, and in my case this was quite out of the question. Quite half of July had gone before we could make up 6 inches of rain for the half year. From the 1st to the 9th of September we had 2½ inches, and this has made a wonderful change in every kind of vegetation. What is most to be feared now is an early spell of frost, which would be disastrous to the succulent growth set up by the late rains.

W. S., Wilts.

EARLY FORCING LETTUCES.

The value of these small Cabbage Lettuces has been proved beyond question for autumn cutting this year—a season when usually they are not large enough to satisfy the requirements of the private or market gardener. In the forcing frame, or as a first outdoor crop, the summer varieties cannot approach these small-hearted Lettuces in point of earliness or usefulness, but I have never found them so valuable in the autumn as this year. This is accounted for in the severe drought we experienced entirely cutting off our supply, summer-sown ones absolutely refusing to grow. They had no alternative but to sow some in a pit where they could be protected from the sun, and to minimise the demand for water. Here I found the forcing varieties useful in turning in quickly, and but for these I should not have any at the present time. Seeds were sown in watered drills outdoors, and were covered with the dry surrounding soil, which in ordinary seasons proves sufficient to carry on the germination and the earliest stages of the plant’s growth, but this year neither soaking nor repeated watering of the drills could induce the plants to grow. Since the change in the weather, quantities of summer-sown seeds have sprung up, while at the same time a

quantity perished in the ground, no doubt after they had germinated. It is really surprising how quickly these little Lettuces mature. In less than six weeks from the time of sowing in the frame I cut nice firm heads, the variety in this instance being Veitch’s Golden Queen. Commodore Nutt and Golden Ball are others which are adapted to cases of emergency such as the one described, as well as the forcing frame in spring. There is but very little to choose between either in point of size or earliness, but there is in colour; one being of a dark green, the other two (as their names imply) of a golden colour. There are others no doubt of equal merit for the purposes in question, but, as I have not grown them, I leave them in the hands of other readers who may have done so. W. S.

NOTES ON BEET.

I AM induced to send a note on the above after reading Mr. Crawford’s practical note on “Select Beet” (p. 184), and venture to add a plea for some of the kinds sent out during the past twenty years, a period in which Mr. Crawford thinks we have not made much progress as regards quality. During the past twenty years there has been a great increase in the culture of Beet, and I was under the impression we had made equally good progress as regards new varieties. My position is the reverse of Mr. Crawford’s. I require early Beet in large quantities, and of late years I have paid more attention to this part of the culture. I think there has been a great advance as regards quality and quick growth in these early varieties. I admit as regards colour they do not approach some of the well-known kinds noted at p. 184, but I am not sure that a deep black is a sure test that there is first-rate flavour; indeed, the reverse in some cases, as after a trial of most kinds I favour the bright reds, and many of the early kinds are of the latter colour. I am aware soils greatly influence the quality of this crop. I sow late to prevent coarseness in any kind required to keep, but in such a hot, dry season as we have just passed through to sow late requires more care, or the crop may be lost, and to illustrate my note I will give dates of sowing to show how a supply may be obtained all the year. For exhibition I have seen the long-rooted kinds sown as described at p. 184, and Mr. Crawford’s remarks as to Beet doing well when forced are very good, as few root crops do better. I always sow for first supplies in heat. These are ready by the middle of May, when many cultivators are sowing their first crop.

Culture to a great extent influences quality and size. I will take the early kinds first. Mr. Crawford does not advise them; neither do I if the Egyptian Turnip-rooted is taken as a standard early Beet. I am of the same opinion as he as regards quality. In some soils this variety is too pale and shows the formation of rings too much. If these Globe Beets are sown in poor, hungry soil there is bad colour. They require to make a much quicker growth than the longer roots and have more disadvantages to battle with, as if the season is dry and the soil poor they have to depend upon a small tap root. If this latter fails to get food and moisture, the flavour is bad. I think we have some fine types in these early kinds, and few would grow the Egyptian if they have given such kinds as Crimson Ball or Sutton’s Globe a trial. These are superb varieties both quite distinct from the old Turnip-rooted types. Crimson Ball was exhibited at the vegetable conference of the Royal Horticultural Society a few years ago. It is as early as the older kind, as if sown early in the spring in the open it is fit for table in June and of excellent quality. It has a very

small top, flesh dark red and of good flavour. For forcing I have tried many, but none equals Sutton's Globe, a distinct type, good in any soil. It differs from the Eclipse and Egyptian in being spherical, flesh of a richer colour, of quicker growth and superior flavour. Though I have only grown it for its earliness in poor land and in gardens where the long roots lacked flavour, I have seen this variety sown for autumn use, and it was much valued. Several others have been introduced of late years, such as Bassano. This is too coarse and lacks flavour. The Globe I sow in heat early in March for May supplies. Raised under glass and pricked off into 3-inch pots, and when large enough hardened off and given a warm border, growth is rapid. Good roots may be had in ten weeks from date of sowing.

I am pleased to see Mr. Crawford refer to the Cheltenham Green Top; this is a pet variety of mine, and though I am aware in certain soils it may be a little coarse, with care in cultivation it is one of the finest flavoured Beets I know. For years this variety was grown in the market gardens around Cheltenham, and I some fourteen or more years ago showed some of the kinds noted for quality against it, but was always in the wrong place. I am inclined to place it before Mr. Crawford's selections as regards flavour and colour. This variety will come under the twenty years limit; as though known in the district named for a longer period, it is only about ten years since it was distributed. This variety I am obliged to sow late in our often manured old garden soil to prevent coarseness, and this year I did not sow till June was well in. At this date the roots are quite large enough. I have this season on trial a green top variety which appears to me to be a cross between Dell's Crimson and the Cheltenham as regards size. It is a very fine type; indeed, I consider it the best I have ever grown. Pragnell's Exhibition is a shapely root and requires care in cultivation. This variety should not be sown too early, and the same remarks apply as to the Cheltenham in this respect. On the other hand, all do not study quality, and I question if Pragnell's has not of late years had a larger sale than any other Beet. I am much in favour of the medium-sized or even small roots, and under this description may be classed Middleton Park, Dewar's Dwarf Red, Cheltenham, Pragnell's, Chelsea Red, and Nutting's. There are several kinds so much alike in growth and colour, that till cut the difference is not seen in all cases; the only test is cooking, as then the flavour, an important point, is quickly noticed. The cooler the store the better the flavour. I am not in favour of too early lifting; on the other hand, much depends upon the size of roots and when sown, as coarse roots soon crack if left out late. —G. WYTHES.

— In his excellent notes on Beet, Mr. Crawford enumerates most of the best varieties available, and certainly enough to satisfy all requirements. There is one kind, however, not mentioned that deserves a passing notice, and that is Sutton's Globe. This belongs to the Turnip-rooted section, but is so infinitely superior to the Egyptian commonly grown for an early crop, that all who have a demand for early summer Beet should give this a trial. It is altogether devoid of the coarseness that usually characterizes the old Turnip-rooted variety, and its quality is first-rate. I feel sure those who have grown this will not readily give it up—at any rate, until something better is in the market. Where there is a difficulty in getting a medium-sized root of the long varieties the Globe may be grown almost exclusively. This reason the seeds came up badly, and in the

case of the sort under notice the blanks were made up by transplanting, and being sown early they did remarkably well, while the later-sown batches could not be so dealt with by reason of the drought. Very large Beet is of no value for cooking, but there is a difficulty sometimes in getting a medium-sized root, the season having considerable influence on this crop. Last year in ordinary cases Beet grew to a very large size, and the seeds germinated at two or three dates corresponding with periods of rain, and this, too, apparently irrespective of the nature of the soil. With favourable weather Beetroot can be easily transplanted either from the open ground or from a box, but attention must be given to watering if the sun has much power, or the plants soon shrivel beyond recovery. I have had no opportunity to transplant any of the main crop this year, the ground being much too hot and dry to attempt it; and yet, in spite of this, there is a tendency in the roots to become over-large. I always sow on firm and not over-rich soil to avoid coarseness. Very late sowings this year have had but a poor chance, many seeds not appearing above ground until after the rain in August.—W. S., *Wiltshire*.

Cucumber Telegraph.—Probably more Telegraph Cucumbers are grown than all other sorts put together, and this season my faith in its suitability for frame culture has been much strengthened by the manner in which my plants have yielded fruit. From a two-light frame, one plant in each, the number of fruit cut during the last three weeks is astonishing. No doubt there are both superior and inferior strains of this old Cucumber, and I am fortunate in possessing the former. In my opinion Cucumbers grown in frames generally surpass in flavour those grown in elevated, airy houses, the extra moist atmosphere seeming to impart additional quality. Where a free yield and quality alone are considered Telegraph is for summer use what the old Show House is for winter.—J. C.

Underground grubs.—I never remember these pests to have been so troublesome as they are this year. Their season of destruction is August, September, and the early part of November, their favourite diet being young succulent Endive, Lettuce, Cabbages, and Coleworts. These they cut in two just under the surface of the soil, the flagging foliage telling its own tale the next morning, as they feed during the night. The plants should be examined every morning, and the soil removed from the base with a pointed stick, when in nine cases out of every ten the predicator will be found. Fully-developed grub average about half an inch in length and are of a dirty brown colour. Amateurs in ignorance often lay the blame to slug, but the latter are really less destructive than the grubs in question. The ravages of the slug are confined to the leafage, and the plant may outgrow the injury, but when the grub attacks it is in a very short space of time injured beyond all possibility of recovery.—J. C.

Outdoor Tomatoes.—In an extensive trial made by Messrs. Sutton of varieties suitable for outdoor culture and trained up cordon fashion to stakes, the heaviest weight is found on Magnum Bonum. The name is somewhat altered, but for outdoor purposes this is one of the very best. Earliest of All and Early Ruby fully live up to their names, as they were the earliest to ripen. Of the yellow forms, Golden Nugget and Sunbeam of the plum-shaped forms, and Golden Queen of the round forms were all great croppers. It seems a pity that these yellow-fruited varieties are not more popular, for they are always of good flavour.—V. STROK.

— I fear the present continuous wet weather will much retard the growth and ripening of Tomatoes. In the first week in August I was of the same opinion as Mr. Iggleton (p. 210), that we were in for an exceptionally good open-air Tomato season, but the 4 inches of rain that have fallen during the last fortnight have considerably altered the then prospect of a perfect crop. On a south border in rows 4 feet apart I have a good lot of

plants thinly trained and bearing a heavy crop, but now many of the best fruits are splitting, even before they commence to colour. Removing three parts of the foliage will assist ripening somewhat.—E. M.

Tomatoes on ashes.—Mr. Hudson, at Gunnersbury House Gardens, has a way of growing Tomatoes that upsets all notions usually prevailing as to culture, especially in relation to feeding. Just recently I saw a plant of the Perfected type, some 5 feet in height, carrying a heavy crop of fruit, and very handsome fruit too, that had with others been grown solely in a bed of ashes. I think Mr. Hudson has grown Tomatoes in previous years in a similar way. Certainly I have seen plants growing there in this same ash bed. Not a particle of soil is added except what comes from the small pots from out of which the plants are turned in the summer. Two or three waterings only are given and no manure.—A. D.

Saving Onion seed.—Many people are astonished at the price asked for seed of the new large growing varieties of Onions. This long price is no doubt due in a measure to the fact that everyone is naturally desirous of realising as much as possible from any novelty he may possess, whether in the vegetable or flower line; but there is also another fact, and that is that most of these extra large bulbing Onions, particularly of the Spanish type, are very uncertain seeders. I am told on good authority that the much sought after (by exhibitors) Ailsa Craig is a very indifferent seed-producer indeed, and even for that reason alone the price for seed is likely to remain high. Moreover, the fact of these large Onions being, as a rule, indifferent keepers also does not improve matters, as perhaps half the stock of bulbs selected and stored by a grower may go rotten ere the spring arrives. No doubt the smaller hard, thin-necked varieties, while being admittedly the best keepers, are also the best seeder'.—N. N.

Cucumbers in frames.—Frequently the supply of frame Cucumbers is cut off and a blank between them and the first winter batch grown in the Cucumber house occurs, owing to the want of a little timely attention and extra care. As a rule the temperature at this season is such as to necessitate the covering of frames at eventide with double mats, which makes all the difference and more than pays for the labour. Early closing should from the present time be regularly practised and judgment used in watering the plants. Overhead saturation in the afternoons of hot days is bound to work great mischief, often bringing about total collapse of the stems from basal canker, or stagnating growth so that red spider, which often flourishes far better in a reduced temperature than the Cucumbers, soon over-runs the foliage and hinders any further advance. If the roots are sufficiently moist, an occasional syringing after this date will keep the plants clean, a little sulphur being occasionally mixed with the water.—J. C.

SHORT NOTES.—KITCHEN.

Spot on Tomato leaves.—Allow me to thank you for your kindness in putting forward my question respecting the above, and for the reply thereto in THE GARDEN of the 29th ult. The remedy suggested I have put into operation, and, from what I can see, has given good effect; no doubt many others who may have the trouble with their plants will benefit thereby.—A. WATSON.

An abnormal Potato.—Monstrosities among Potatoes or other vegetables are seldom worth recording, as they are of no practical value, but there was lifted here to-day a Magnum Bonum Potato quite out of the ordinary run of "grown out" tubers. The original tuber was quite a large one, and this had pushed out six protuberances, the whole lump weighing 31 lbs. when cleaned. The ramer by which this extraordinary specimen was attached to the plant is as big round as an ordinary cedar pencil, and strong enough to carry it by without breaking.—J. C. TALBOT.

A GARDEN IN SPAIN.

You have lately been considering and describing garden rooms in **THE GARDEN**, so perhaps it may interest you to have some photos from Spain, a country where, of course, shady refuges are much required. The Moors must have been very fond of their city gardens in their flourishing days. Even now the remains of them are very charming, as this view of a Spanish house and garden will show. Few people could evidently have more enjoyed the "luxury of contemplation" from the shelter of their garden structures than these accomplished Moors. The pictures of the lovely plain and mountains of Granada, framed by the horseshoe

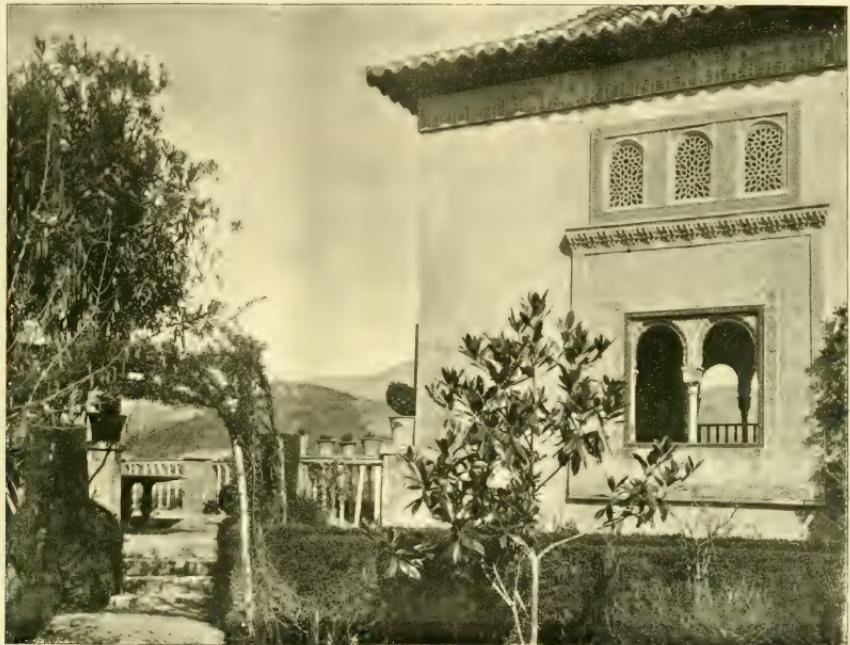
consignment, though in large lots many bulbs may be found. It is a beautiful form, the segments very solid, the greenish band or midrib noticeable in Kratzeli being in this replaced by one of a creamy hue.

ROSE GARDEN.

LA FRANCE AND ITS PROGENY.

DOUBTLESS we shall soon speak of the La France race of Roses as we do now of the Dijon race. We scarcely appreciate the beauty of La France in full summer-time when there is such a

like petal and is altogether a fine bold flower, decidedly distinct from La France in form, its exquisite clear pink colour, combined with its freedom of blooming, being qualities which will recommend it to all lovers of this type of Rose. Duchess of Albany is another grand addition to this La France race. Just now the colour of this variety is exceedingly rich. During the summer the difference between this variety and its parent is not so marked, but in autumn it is of a very fine rich pink when fully open, the buds being almost a light red. It is a splendid variety for forcing, and the more heat given, the richer the colour becomes. It is a sport from La France. Danmark is an



A Spanish house and garden. From a photograph sent by Mrs. Robb.

arches, always beautifully proportioned and adorned with interesting tracery and lined within by harmoniously coloured tiles, make these garden porticoses as perfect as anything of the sort can well be imagined. M. R.

Lilium speciosum album novum.—This is a beautiful pure white member of the speciosum group, that, on account of the golden yellow colour of its anthers, is easily distinguished from the other whites. It comes quite near to the well-known Kratzeli, though possessing minor distinctions in leaf and flower. The plant is also known by the name *album verum*, an assumed title for which no real necessity exists. This form rarely if ever reaches this country as a separate

wealth of lovely Roses, but when autumn approaches, and many of our favourites are almost flowerless, then it is that we value this unique variety. But it is not to praise this Rose itself—for that is unnecessary—so much as those that have been raised from it. The first to claim our attention is that splendid variety *Augustine Guinoiseau*, sometimes called the White La France. It is of a delicate blush colour, reminding one at times of Viscountess Folkestone, but quite distinct from that well-known variety. It is an exact counterpart of its parent save in colour, and one cannot well have too many of it in the garden. Another very fine Rose is *Caroline Testout*, a seedling from La France. It has a most beautiful shell-

other seedling of great merit, especially for pot culture. In form it is simply perfect and of good size, but it does not open well in a wet season. This summer it has been superb. The habit is quite different from that of La France. The stems are stiff and the flowers well thrown up above the leathery foliage. Last, but not least of this La France tribe, must be mentioned that fine variety Mrs. W. J. Grant. Like many new Roses, it has had to contend with the excessive propagation resorted to when a Rose is known to be good. I believe most of the plants imported from America died soon after they were distributed. Doubtless when budded on some strong Briers we shall see the beauty of this fine hybrid. The colour

is of a beautiful even pink of a deep shade, and the form of flower is exquisite.

Seeing all these Roses in flower as it were simultaneously, I could not but think what a fine effect would be produced if they were all massed together in one bed.

PHILOMEL.

BOURBON ROSES.

AUTUMNAL Roses are always welcome, and there are several reasons why this is so. They assist in a large degree to prolong the feast of beauty which the Rose garden gave us during the summer months, when, perhaps, only fleeting visits could be paid to the country home, but when the autumn approaches then it is that the Bourbon Roses are valued. Excepting the Tea and Hybrid Tea-scented and the Monthly Roses, there is no class of Rose so valuable for planting where late-flowering varieties are desired, and they certainly deserve much more extended cultivation than they at present obtain. Their bold, vigorous habit, combined with exceedingly free-flowering qualities and clear, bright colours, should be sufficient recommendation of this lovely class of Roses. Many varieties are also so exquisitely formed, that one would almost imagine they had been taken from a mould. They make excellent standards, for frequently one sees quite a large head on a two-year-old plant. Many varieties are also well adapted for pillar Roses if allowed to grow as they like, but it is as garden Roses that the Bourbons are most valuable. Where possible, it is best to plant them in large beds or masses of one variety, the ground of course being previously well trenched and manured. They delight in a good rich loam rather stiff than sandy, but must have good drainage. The treatment of these Roses is somewhat similar to that necessary for the Hybrid Perpetuals. For ordinary garden decoration they should not be pruned hard. Doubtless many Roses are over-pruned at the present day, with the result that, instead of seeing grand, effective shrubs covered with blossoms, we see instead many distorted, puny bushes. These Bourbon Roses will readily root from cuttings, but I prefer the seedling Brier for them, with its long tapering roots, as this stock is sufficient in itself to induce late flowering. Like most classes of the Rose, the Bourbons are becoming rather mixed, some having the name of Bourbon Perpetual, others of Hybrid Bourbon, but for all practical purposes they are the same. I append below a list of the best varieties taken somewhat in their order of merit.

SOUVENIR DE LA MALEMAISON.—A superb old variety, so well known that a description would be superfluous. It is certainly the best of all the varieties hitherto obtained.

MRS. BOISSONNET.—Very pale flesh colour, most abundant bloomer. Excellent either as a standard or a bush, and very free in growth.

MME. ISAAC PERIERE.—A fine showy flower and most abundantly produced. The colour is a lovely rosy carmine. Certainly a very fine Rose either as a standard, on a pillar or as a bush.

MRS. PAUL.—A large Camellia-like Rose of exquisite colour. It is bluish-white with rosy peach shading, and the flower has good thick petals; very vigorous in growth. It is a seedling from Mme. Isaac Periere, and partakes of all the good qualities of that fine Rose. Splendid as a standard or pillar Rose.

QUEEN.—Wondrously free-flowering; often as many as fifteen to twenty flowers and buds can be counted on one shoot. The colour of the flower is buff, shaded rose.

GLORIE DES ROSIMANES.—One of our most brilliant garden Roses. It is only semi-double, but instead of this fact marring its beauty it rather enhances it. The colour is a beautiful rich crimson. It is of vigorous growth.

MME. PIERRE OGER.—White, shaded and edged with a lovely pink. The most beautifully formed Rose in cultivation. Fine as a standard or dwarf.

KRONPRINZESSIN VICTORIA.—A delicate primrose-yellow colour. It is a most lovely variety, which appears to increase in popularity each year. It is a sport from Souvenir de la Malmaison.

LORNA DOONE.—The colour is a bright carmine shaded with scarlet. It is a Rose that should be in every collection.

BARON GONÈZE.—This Rose should be more extensively grown. The colour is very distinct; the back of the petals is a deep rose, almost lake colour, edges of petals silvery, whilst the inner side of the petals is a deep pink. It is of very fine, free habit.

QUEEN BEADERS.—Rich crimson, abundant bloomer, and of a very dwarf habit.

AUDELIA.—A grand variety of a very slender, graceful growth. Its flowers are bluish-white and of good size, and the variety is a semi-climber.

COMTESSE DE BARBANTANE.—Very double, flesh-coloured flower, of fine form, the plant vigorous in growth.

REINE VICTORIA.—Another well-formed variety of very vigorous growth. The colour is a bright rose, and the size of the flower may be called medium.

ROUSTA.—This is well named. It will make growths in one season 6 feet to 8 feet long. The colour is velvety crimson, with a purplish shading. Excellent as a climber or pillar Rose.

COMTESSE DE ROCQUIGNY.—Immense trusses of flowers are produced by this variety; the colour is white, flushed with salmon-flesh. Fine variety for the wild garden or shrubbery.

SIR JOS. PAXTON.—Although somewhat flat, one cannot well omit this Rose because of its good character as a town variety. It is very free and vigorous; the colour is bright rose, the flowers are rather flat. As a free-flowering, vigorous variety there are few to equal it.

PHILOMEL.

Rose Sombreuil.—Although this Rose is upwards of forty years old, it still remains one of our best free-flowering semi-climbing white Roses, especially during the autumn months. The shoots are produced about 3 feet in length, and terminate in a bunch of three to six lovely Roses. The form of the flower is globular, the petals rather loosely arranged somewhat in the manner of those of Souvenir de S. A. Prince. I prefer Sombreuil to the last-named variety for garden decoration, as there is no tendency to hang the head, which is rather a peculiarity of Souvenir de S. A. Prince. In Sombreuil there is just a tinge of blush-pink as autumn approaches, which, if anything, rather enhances its beauty. It would be admirable as a standard or semi-climber on a low wall.—E.

AUGUST IN SOUTH DEVON.

During the past month 1·03 inches of rain have fallen on eleven days against 2·41 inches on sixteen days in the corresponding month of 1895, the average rainfall for August being 2·84 inches. For the first eight months of the present year a fall of 9·17 inches has been recorded, compared with 16·55 inches for the same period in 1895 and an average fall of 20·81 inches. We are, therefore, in this neighbourhood 11·64 inches behind the customary rainfall for the first eight months of the year. The mean of the highest and lowest readings of the thermometer has been 61°0' in comparison with 60°1' for August, 1895, and an average mean temperature of 61°4'. The lowest reading in the screen was 46°2' on the 27th, and the lowest in the glass 43°3' on the same date. The highest screen temperature was 78° on the 2nd and the highest sun reading 125° both on the 23rd. Of interest during the month of August there have been registered 209 hours 25 minutes against 188 hours 5 minutes in August, 1895, and an average of 187 hours 40 minutes. For the first eight months of the present year 1364 hours 25

minutes have been recorded, the amount for the corresponding period of last year being 1430 hours 30 minutes, and the average 1315 hours 45 minutes. The wind has been considerably less boisterous than in August, 1895, when the total horizontal movement reached 7110 miles, the amount registered for the month under notice being 6235 miles. The greatest daily run was 381 miles on the 24th, and the greatest hourly velocity was reached between the hours of 10 a.m. and 11 a.m. on the same date, when a rate of 29 miles per hour was attained. For the first eight months of the year the total horizontal movement has been 49,895 miles, against 33,745 miles in 1895. On twenty-two days of the past month the wind has blown northward to westerly, and on the remaining nine days northerly to easterly. The mean humidity of the month has been 73 per cent., against 79 per cent. in August, 1895, while 86 per cent. of ozone has been recorded, running from 40 per cent. during an easterly wind to 55 per cent. with a south-west breeze.

In the garden the Belladonna Lilies are in fine bloom at the foot of a south wall, and the white Antirrhinum, which, after its first flowering, was cut back, has again produced snowy broadheads in the border. A large patch of Sweet Alyssum from spring-sown seed is in full bloom in a corner of the wild garden and fills the air with its scent of honey, which attracts numberless hive and bumble bees to its white blossoms. Achillea ptarmica The Pearl, which has been hard cut for decorative purposes, is still blooming from side shoots, and Anemone japonica Honore Jobert, in a low-lying portion of the garden, has been fully 5 feet 6 inches in height and crowned with a profusion of pure white golden centred flowers. In dry spots this Anemone has barely reached a stature of 2 feet. With the aid of abundant watering, the large bed of tuberous Begonias, which contains several hundred plants, has done well, and is at present a sheet of glowing scarlet. At the back of the beds a deeper shade of red is provided by the tall flower-scapes of Erythrina crista-galli, which against the wall has grown to a height of almost 5 feet, some of the bloom-spikes being 2 feet in length. In places the Carnations have done well, and the Marguerite section are now coming into profuse bloom. Canna Eduarda trifolia has produced scarcely a dozen flowers to date and will do so until the advent of the first frost, while its large Musa-like leaves have always a bold and handsome effect. The tall Chimney Campanulas (C. pyramidalis) have been very fine, one specimen of the white variety being especially noticeable. This plant when young was nearly destroyed during the winter of 1894 by water-rats, and has since then confined its energies to recuperating its strength. This it accomplished so thoroughly that this autumn it threw up thirty flower-spikes, the tallest attaining a height of over 6 feet. Campanula turbinata and C. t. alba are still in bloom, and Coreopsis grandiflora, in spite of its profuse flowering in the preceding months, is still a golden gleam in the herbaceous border. The Asters, or Starworts, have commenced their flowering season, A. Novi-Belgii Harpur-Crewe being already in bloom, while Goldilocks, A. (Chrysocoma) Linscrys, is fast expanding its yellow inflorescence. A. Amellus bessebasius is also in flower, its large blossoms being equally effective in the garden or when utilised for indoor decoration. Here and there the large golden stars of Doronicum plantaginaceum excelsum are to be seen in twos and threes, and Erigeron speciosus is not yet entirely flowerless, while the Mexican Daisy (*Erigeron mucronatus*) is producing its simple blossoms as freely as if it had not been in continual bloom since the latter days of spring. The Cactus Dahlia are now at their best, and we have some introductions quite new, such as the true Cactus form of Juarez, L. Petziana, deep yellow and J. H. Roach, a lighter shade of the same colour; Delicata, pink, shaded to sulphur and white; Beauty of Arundel, lake; Gloriosa, crimson scarlet; Professor Baldwin, orange-scarlet; and Matchless, velvet-maroon, are all good. Mrs. C. Peart is a handsome white, which, however,

partakes more of the decorative than the true Cactus shape, and will probably be soon ousted by Mrs. F. Fell, a pure white of faultless contour. During August the white Gallega has been smothered with its Peacock plumes, and the tall flower-spikes of Galanthus (Hedychium) candicans with its pendant white blossoms have contrasted delightfully with the vivid scarlet of Gladiolus brachycalyx and the deep blue of Salvia patens. The Gaillardias with their brilliant livery of crimson and gold have made an effective display, but ere the month was two weeks old the charming tracey of Gypsophila paniculata had lost its fairy-like beauty, and Statice latifolia, whose flowering habit, though on a less exceptionally delicate scale, suggests that of the Gypsophila, passed out of bloom before the close of August. The scarlet Geum, still blooming sparingly, has given an occasional note of vivid colour amid the prevailing glow of yellow that predominates in the autumn garden and which is provided by the Sunflowers and Rudbeckias. Helianthus giganteus has barely reached a height of 7 feet, which is considerably less than its stature for the seasons of 1894 and 1895. When seen against a background of dark green its coronal of light yellow flowers gives a pleasing distant effect. H. multiflorus and H. m. Soleil d'Or stand in deep and fairly moist soil are blooming grandly, but on a dry bank H. rigidus, though a mass of flowers, is scarce more than a foot high. H. latifolius, perhaps the best of the perennial Sunflowers, has been in bloom for some time in exposed gardens, but in sheltered and partially shaded situations has not as yet expanded its buds. Lobelia cardinalis near the water has been, and is, a glorious sight. Some thirty clumps stand together and ring out of blue and yellow the gloomy purple spikes that also, in height they vary from 2 feet to 4 feet, which, considering the dryness of the summer, is a good average. Last year some spikes reached a height of near upon 5 feet. The plants in question are the descendants of two small clumps which were procured in the autumn of 1893 and planted while in flower. Being well attended to they did not suffer from their removal, and each autumn since have been sub-divided. No mulch or protection of any kind has ever been given, yet even in the severe frost of 1895 not a single plant succumbed. Close by are three clumps of Lobelia roses with pretty pink flowers, which, however, lack the brilliance of L. cardinalis. L. rosea is presumably a hybrid between L. cardinalis and L. erythrophylla. Lychnis chalcedonica and Monarda hirta have both been in bloom during a portion of the month, while Solidago ambigua (Golden Rod) and Aconitum Napellus (Monkshood) have mingled their gold and purple in the wild garden.

Of the Lilies, L. satrurn has been in bloom, but has not reached its stature of former years. L. speciosum has grown strongly and flowered well. L. superbum has as poor as its compatriot, L. pardalinum, has been fine, the reason for this difference being hard to determine, as the clumps were planted less than 2 yards apart, in precisely similar soil and at the same time. The Tiger Lilies have been very lovely, but have not reached their usual height. L. t. Fortunei is, here, the most satisfactory variety. A patch of L. t. splendens from bulbs sown three years ago has bloomed for the first time during the month. The Monbretia has been most profuse in bloom, both in exposed and sheltered positions, and I have lately seen them thoroughly at home under the spreading branches of Oak trees. The graceful poise of their flower spikes and the brilliant orange-red of their blossoms make them universal favourites for beautifying the herbaceous border with their uncommon tints and for use as cut flowers. In South Devon they increase rapidly, and in a few seasons a plantation becomes a solid mass of bulbs. Phytolacca capensis has produced on tall stems its bright racemes of flowers, and Oxalis floribunda rosea has also been in bloom, while the Winter Cherry (*Physalis Alkekengi*) has already become ornamental by reason of the orange hue which has suffused its calyxes. The lowly *Polygonum capitatum*, though incon-

spicuous, is a pretty little flower and at home on the rockery or bank, and the blue of *Plumbago Larvata* takes the place of the more vivid tint of the spring Gentians. A fine plant of *Plumbago capensis* is in bloom against a cliff with a southern exposure in a neighbouring garden, its light blue flower-clusters contrasting well with the ruddy colouring of the rock. *Paperwhites* and the Welsh Poppy (*Mesconopsis cambrica*) have both borne occasional flowers of aristocratic character respectively, and the tall Evening Primroses (*Emilia Lamarckiana*) have opened their large clear yellow blossoms beneath a Palm-like *Araucaria*, which is just coming into flower. The herbaceous Phloxes retained their beauty through out the greater part of the month, but are now things of the past. Rudbeckia Newmani has never been so free-flowering. All the plants, some of them a yard across, are sheets of golden black-centred blossoms. The faint blue *Scabiosa caucasica* is a gem in the garden, and when planted around bushes of the yellow Paris Daisy, the pale shades of yellow and blue form an exquisite harmony. Stokesia cyanea has opened its purple flowers before the close of the month, and *Sedum Sieboldii* has followed suit, while *Tradescantia virginiana* is blooming for a second time. Zauschneria californica has done well this hot summer, and is now covered with its vermillion blossoms,

long footstalks from the glaucous foliage, while *T. canariensis* has wreathed tree bale and lichenized wall with wandering streaks of gold. *Eccremocarpus scaber*, a her annual, is covered with flower, but is apt to look dingy by the side of the brighter *Trachelium*. *Mimulus lobata*, climbing amongst the Virginian Creeper, has a pretty appearance, its flower-spikes being thrown out some inches beyond the leaves of the Ampelopsis. An effective foliage plant is the *Thlaspi* (*Thlaspi sativum*), growing to the height of 8 feet to 10 feet and being exceedingly graceful in form and leafage. Associated with *Acanthus* and *Gunnera*, its tall and lissom shoots are seen to the best advantage. *Choisya ternata* has commenced a second flowering period, but on dry slopes this and other shrub show, by brown and withered leaves, how hardly they have been dealt with by the lack of moisture experienced throughout the whole of the past six months. The Limes' leaves are yellowing, and as I write I see a scarlet glow on the brier sides of a Horse Chestnut. The swallows are thickly lining the roof, and the doves have brought their last fledglings of the year from the nest in a distant Elm to roost within the odorous precincts of the standard *Magnolia*. Summer is dead, and Nature is aware that she is no more.

S. W. F.

FLOWER GARDEN.

NARCISSUS MOSCHATUS.

(LESSER SPANISH WHITE DAFFODIL OF THE PYRENEES.)



Group of *Narcissus moschatus* at Rathmines, Dublin.
Engraved for THE GARDEN from a photograph sent by Mr. N. Colgan.

The Tufted Pansies still retain their loveliness, some of the varieties with gradations of saffron and blue being especially charming. Roses have done indifferently compared with other seasons, though there have always been sufficient Teas to fill a bowl or two for the house. Safrano and Mme. Hoste have been among the most satisfactory, and the white Macarney Rose has day by day unfolded the purity of its petals. Tigranias, with the opulent glories of their fleeting blossoms, are at the zenith of their display in August, and all colour are shown in good, scarlet, white, yellow, and rose. The Ivy-leaved Pelargonium (*Spiraea*) de Charles Turner is very effective hanging over rock edgings, alight with its brightly tinted flower-clusters, and springing from a mass of blue Lobelia, while in the background the gorgeous blossoms of the *Salpiglossis* glow like shot silk in the rays of the setting sun. *Solanum jasminoides* becomes more lovely month by month, and every loosely swaying shoot as it hangs from the eaves of the house downwards is terminated by a snowy flower-cluster. From beneath, a scarlet *Tropaeolum Lobbianum* has ascended the wall till its growths and flowers have mingled with those of the *Solanum*. *Tropaeolum speciosum* is still flowering bravely, and in a shady corner seems quite at home even during this arid summer. *T. tuberosum* is also in bloom, its scarlet and orange blossoms standing out well on

The illustration represents a healthy and free flowering tuft of this exquisite little white Daffodil growing in a garden at Upper Rathmines, near Dublin. Mr. N. Colgan, who sent the photograph from which the engraving was prepared, has since furnished the history of the bulbs composing the clump illustrated. He says: "I gathered about a dozen bulbs on July 10, 1890, on the limestone plateau of the Gaulis, S.W. of Mount Perdu, in Upper Aragon, at a height of 6000 feet. The plant was rare there, not more than 100 plants in all, and my guide, an experienced Narcissus hunter from Saint Sauveur, in the Gavarnie valley, on the north or French side of the Pyrenees, told me it was very rare on the Spanish or south side of the chain, and unknown on the French side. On the Gaulis plateau the plants grew in a very close pasture on a limestone bed, and close by were splendid sheets of *Myosotis alpestris*. On my return in October, 1890, I planted the bulbs in very poor garden soil, near the foot of a Pear tree and of a wall in a western exposure, and the bulbs flowered freely on April 10, 1891, and have continued to bloom every year since. The dates of flowering for each year are the following: 1891, April 10; 1892, April 15; 1893, March 26, an early spring; 1894, March 31; 1895, April 20, a late spring. This spring on February 11, 1896, eleven flower buds have already begun to appear. The flowering season of the species, it will be seen, is just three months in advance in Rathmines of that of its native station on the Gaulis plateau, where the snow lies probably until the end of May."

It is curious to note that although this plant was known in Continental gardens in the late sixteenth and early seventeenth century days, when it was accurately represented by Dutch and Belgian painters, yet it was apparently quite lost sight of again until rediscovered by Mr. Buxton in the Val de Arrases in the early summer of 1884. There is a specimen in the Linnean Herbarium named *N. moschatus* (No. 5) from the garden at Upsala, but it is not the wild *N. moschatus* of the Pyrenees, and is more pro-

lably *N. cernuum* of our present day gardens. Again, the much larger plant grown in Holland and in English gardens as *N. moschatus* of the Dutch is quite a different thing, and is now more correctly known as *N. albicans*. Haworth knew it as "the greater Spanish white Daffodil," but it has never been found wild in Spain or elsewhere. As a matter of fact, the only really wild white Daffodil known is the true *N. moschatus* now alluded to, and from which it seems not only possible, but highly probable that all the other white variations now known in gardens have descended from seed. Like all wild seedling Daffodils, *N. moschatus* varies to a limited degree, and from a large collected batch of bulbs in flower you can pick some small varieties having narrow perianth divisions and very narrow and nearly perfectly cylindrical trumpets, while other flowers have broad perianths and wider trumpets approaching to the garden white known as Colleen Bawn. In nearly all cases the flowers are distinctly pendent, the trumpet of the flower hanging parallel to the scape. The flowers are of pure snowy whiteness, and this intensified by the dark green tube, the outline of which is convex rather than concave, as in most trumpet Narcissi. It is an exquisite plant for moist, half-shaded positions on lawn or meadow, where its drooping flowers show up well in the grass, or it does well if its bulbs nestle amongst Moss-covered stones in the rock garden, but it rarely grows or looks at its best on a bare and open border. In pots it is charmingly grown in a cold frame.

By hybridising this plant and others with *N. triandrus* albus, Mr. Englehardt has raised some charming seedlings of the Snowdrop section, that is to say, white or pale creamy varieties of the *N. Johnstonii* type. It would be very interesting if a white Campanelle (*N. odorus*) could be obtained by crossing with the true Jonquil (*N. Jonquilla*). Although the lesser Spanish white Daffodil is chaste in colour and dainty in form rather than large and showy, it nevertheless deserves careful culture and naturalisation in our gardens. Coming as it does from the cool, moist valleys of the Hautes Pyrenees, where it is fed by the snow melting every spring, we must remember that it enjoys shade, moisture, and the company of grass or other herbage rather than a bare and hot and sunny border fully exposed. Some sort of instinct suggests to me that *N. montanus* (also said by Salisbury to come from the valleys of the Pyrenees, but not re-discovered in our time) is in some way related to *N. moschatus*. May *N. montanus* not possibly be a hybrid between *N. moschatus* and *N. poeticus*? Perhaps Mr. Englehardt will some day prove synthetically the real relationship between these two plants.

F. W. BURBIDGE.

Clematis Jackmani.—A delightful effect is afforded by growing Clematises against an almost perpendicular bank. Evidence of this I met with in a case where a rough bank about 15 feet high, composed of loose rock and shale, in which some Periwinkles and weeds had rooted, had been covered with galvanised wire netting, painted green, upon which the growths of six plants of *Clematis Jackmani* were spread. The sheet of glorious purple was many yards in extent and stood out from the dark green of the Vinca leaves, which formed a most harmonious background. As long as the roots are well fed and slugs and snails prevented from eating off the young shoots, of which they are extremely fond, this Clematis will make boughs of rich colour in the garden with but little attention.—S. W. F.

Tufted Pansy Bluebell.—This is one of the older varieties which holds its own in the flower

garden, despite the introduction of so many new forms, not a few of them of questionable value. I saw a long line of it the other day. It was blooming very freely and there was no trace of mildew on it. The exhibitor will not have any thing to do with it, it is too small for his purpose, as he likes a large round flower to form an effective spray, but Bluebell is of service in the flower garden, and will be found there for many years to come. It should be taken as a model by raisers for the following reasons: its hardiness, freedom of bloom, persistence, compactness of habit, dwarf and spreading, and because it displays its blooms so well above the foliage.—R. D.

Water rats and Nymphaeas.—A few weeks ago, when walking through my bog garden, in which I am growing half a dozen different species of Water Lily, I noticed that one of them, a fine strain of *Nymphaea Laydekeri* roses, had been since the preceding evening completely stripped of its flowers. On searching the ground near I found hidden in the long grass, and all together, the missing blooms, which had been bitten off, each with an inch of stalk, and presumably by a water rat. Some of the crimson petals had been eaten, but not all of them, nor had the centre of the flowers been touched. None of the other Lilies had been attacked, nor have I ever noticed such a thing before. It looks as if the rat had been attracted by the brilliant and unusual appearance of these beautiful flowers, and, like some other collectors, could not resist the temptation of appropriating them. The common Water Lily grows in my garden in great abundance, and my little friend might have taken any number of blooms had he wanted them for any useful purpose, but I am afraid a water rat with a scientific interest in rare plants, and especially in rare Nymphaeas, is an intruder in a garden that cannot be tolerated.—F. W. HARMER.

P.S.—Since writing the above I have learned that my friend Dr. Beverly has met with a similar experience in his garden at Brundall, near Norwich.

* * * We find water rats constant destroyers of all the newer Water Lilies, and if these rats are not kept down, the bulb the plant produce will not be gathered. They like the fleshy base of the flowers, and if allowed their own way we find nearly all the flowers on the bank. We find they eat all varieties. In open water fed by streams etc., they are troublesome than in bog gardens and the like. They are easily trapped by the common gin, and they should also be shot, fertilised, and kept down in any way. They are more easily trapped than the brown rat, which also frequents the water-side.—ED.

BAKED LILIES.

"*E. J.*" (p. 171) does not appear to have devoted the amount of careful thought to this Lily matter that he usually does to the interesting papers he occasionally sends to THE GARDEN. Had he, however, and never in one place have advised that Lily bulbs should be dug up in July and left to rot for weeks on a gravel path during our hottest weather for their benefit, and in another that the same bulbs, if dug up in October and kept for some time in coco-nut fibre during cold weather, may be injured. But perhaps he will explain. We must remember that there are Lilies and Lilies, one set including such kinds as *croceum*, *umbellatum*, *Thunbergianum*, &c., whose scales are so closely compacted together as to almost form solid bulbs, which annually at the end of the growing season part with their roots and retire within themselves. This seems to be an arrangement to enable them to exist for a period under rather dry conditions. These may no doubt be subjected to a certain amount of paper bagging without receiving much injury, but even with them it is surprising how quickly some begin to decay when out of the ground. Then there is the much larger set, which includes *candidum*, *testaceum*, *speciosum*, *auratum*, &c., whose roots are persistent, an arrangement no doubt intended

to keep the bulbs supplied with nutriment all the year round. Certain of these—*candidum* and *speciosum*, for instance—are possessed of so much constitutional vigour as to be able to recover after being for a considerable time out of the ground, while *auratum* has so little, that it is only able by means of a wig of stem roots to perfect the flowers contained within it before finally collapsing. But because some of these are so vigorous as to be able to survive a good deal of most barbarous treatment surely does not prove that the barbarous treatment was beneficial. Then there is a third set, to which *pardalinum*, *canadense* and *superbum* belong, and which "*E. J.*" enthuses as he is upon the point, would, I am sure, never think of drying. These we will leave out. Now take the three he specially mentions as having been benefited by drying: *candidum*, *testaceum* and *chaleodonicum*. The first is a hardy and vigorous Lily, and may no doubt be dried and reduced to a good deal of rough material and still survive. The second is much like it, but the other, *chaleodonicum*, I say without fear of contradiction cannot be moved from one part of the garden to another, no matter how quickly or how carefully it may be done, without suffering somewhat and requiring two or three years to recover its previous stature; and when "*E. J.*" says that this Lily can be not only dug up, but roasted into the bargain and still come up smiling the following season, I say that he is drawing upon his imagination, and has never seen *chaleodonicum* at its best in huge sheaves of noble stems 5 feet high, as I have, and to pretend that this can be kept out of the ground for two or three months after October, and then behave as though nothing had happened, is out of the question. Not only am I utterly opposed to drying Lily bulbs, but even more so to disrooting them, and I look upon this as the most objectionable practice connected with the Lily trade; and I say that the man who digs up a Lily bulb, cuts or pulls off its roots, and then packs it, for instance, in bran is not a practical gardener; sawdust is just as bad. For years I have been fully persuaded that if we could get *L. auratum* with the roots intact, we should have very little difficulty in getting it established. As the bulbs are sent now, lacking in vitality as they are, the stem is pushed up and no roots are formed, the flowers open, and the bulb perishes without in many cases having made a single root from its base; while *speciosum*, though coming from the same place and disrooted similarly, being much stronger, makes basal roots and becomes established. Drying and disrooting are quite distinct from one another, but when the two go together it is very bad for the Lily.

T. SMITH.

NOTES ON HARDY PLANTS.

Echinops.—Just now I have a lot of self sown seedlings in flower, clearly the result of a cross between the blue *E. bannaticus* and the white *E. sphaerocephalus*. The heads are bigger than those of *E. bannaticus* and of nearly a sky-blue shade. I prefer distinct or decided colours, but I am sure many would like this form. The following compared with that of *E. bannaticus* is more spreading and free, and a great improvement on that of the blue kinds, which I generally see rolled, crumpled, and rusty.

Eryngium amethystinum (L.).—It is almost needless to say that this is the true *amethystinum*, for several other varieties have long passed in commerce under the name. What I wish more to speak of is the great beauty of this dwarf species both in bloom and foliage. It is quite distinct as a plant from all the rest of the Sea Hollyies, and judging from what my friends do and say on seeing it, it is not only the most desirable but practically a new form to most of them.

Primula Poissoni.—In the open-air this has been flowering since early June. This is not meant of individuals, but of several in a big group. Still the flowering of single plants is remarkably prolonged, as may be judged when it is

mentioned that some of them form a fifth whorl. Another feature worth notice is the better shape and size of the flowers, and the softer colours in the later summer, just as we find to be the case with some Roses and Carnations, &c. At present the honey-scented flowers are of the several delicate heliotrope hues, and a group of this late Primrose in a sheltered moist nook would be a distinct and charming feature in any garden.

Veronica cristaifolia.—"This is a rare Speed-well." So said the late Mr. Niven when he gave me almost the last bit he had just before he died fifteen years ago. It belongs to the herbaceous section of *V. spicata*, grows 2 feet high, stems as straight as arrows, leaves severally recurved, crisp, toothed, stout and glistening. The flowers are in the thinnest possible spikelets and deep violet-blue. When the plants get a fair size they arrest notice, and if carefully examined become highly interesting.

Eritrichium nanum.—As is well known, this is not one of the easiest alpines to cultivate. It is so sensitive to climate that one has to begin to learn its treatment with every change of gardenering conditions, hence the difficulty of one transmitting to others the best mode of treatment for different gardens. Still, one or two general points of culture may be worth note, and, as I have had more or less success during the last four years, and more than ordinary success during the last year, I will give the chief points of treatment. First, it should be kept in mind that the plant loves summer moisture, and equally a dense but very porous soil, such as fine granite grit, coarse silver sand mixed liberally with fine peat, and finely sifted. Second, the most important is to transplant in spring just as growth begins unless, indeed, the plants are strong. Use pot specimens with all their roots intact, then there is much less risk. There is another reason why many newly-acquired plants fail. If in transit the grit, which had naturally found its way into the hearts of the tuft and around the collars of the minute rosettes, gets dislodged, it should be carefully replaced, or the herbage will soon assume a sickly yellow colour and die. The chief point, as I take it, is to have the plants solidly compacted with grit, that no part of the plant, excepting the little glandular leaves, can evaporate but a minimum of moisture, and also that capillary attraction may be the more perfect. Green fly often attacks the plants, and on the first signs—which will be yellowish spots on the leaves—dust with tobacco powder by means of the puff-box and invert a flower-pot over the plant for a day; this soon chokes off this pest. Of course, autumn and winter protection is absolutely necessary against wet, and a sheet of glass is suitable. In some conditions of our Novembers and Decembers, these downy cushions would otherwise never get dry and black rot would set in. This would be a fatal state with a variable winter to follow. Yet it is possible to have this mountain plant from the high mountains in a good state, and once you get the right notion how to deal with it, you will not only find that it makes rapid growth, but also that such growth ensures largely that it will get safely through our wet and foggy seasons. As a summer plant I do not think it needs extra skill.

Fratia angulata.—This is one of our most beautiful and effective creepers for the latter end of summer. The comparatively big white moth-like flowers, and the fruits are simply charming. This plant, which grows like a weed in most gardens, like the *Erinus alpinus*, refused to grow here, but I found a bit of heavy loam made all the difference.

Silene virginica.—How rich and welcome are a few late flowers of this brilliant Catchfly. In a garden like this, where slugs are kept under only with constant care, one is not likely to see it in big masses. I fancy it resents humus under the surface when newly planted, and I am sure it loves a clay soil.

Phyteuma campanuloides.—At this late season this distinct species affords one of the best

bits of blue we have, the small flowers being arranged in long elegant spikes. I have noted this before in these columns, and I do so again, because it is so seldom seen, and if put in the right place it would liberally repay culture if in no other way than for picking.

Gentiana Andrewesi makes a rich show with its stems nearly 2 feet high and liberally bedecked with the big blue bells. I find this most responsive to treatment in the way of giving flowers so late as Michaelmas when planted in good soil under low trees or otherwise shaded as in a north aspect.

J. WOOD,
Woodville, Kirkstall.

THE WILD GARDENS OF THE SIERRA.

Our California Sierra is 500 miles long and 70 miles wide, and its elevation is from 6000 feet to nearly 15,000 feet. Wonderful are the peaceful mountain lakelets that find places on no maps—pell-mell, transparent, hidden in sheltered hollows of glacial valley basins, at the tips of ancient moraines, or strong like beads in mountain streams, as in Lake Hollow, in Tolumne Cañon, where ten such lakes lie close together. These snow-fed pools begin to throw off the chains of winter in May, June or July, according to the altitude, and then their margins suddenly run riot with a most bewildering variety and multitude of plants. Thousands of attractive lakelets exist in the Sierras; in the Merced district alone Muir notes 131 of them, not 500 yards in circuit; other thousands of hollows, once occupied by lakes, have now become green and blossoming meadows, while some are in the transition state—cold swamps where the Droseras grow, and one may look for Darlingtonia, or find in deeper channels the Nuphar polysepalum. The margins of these countless lakelets are soft with Mosses, pale green Hypnum, silky and lustrous Dicranums, dark Polytrichums and other Musc, green and purple Sphagnum, and slender Selaginellas. In such wet places rise the tall stems and graceful whorls of Sphærianthus, the Sierra Ladies' Tresses, with white and greenish Habenarias. Sometimes one finds the white-racemed Hastingsia. The ripe, salmon-coloured capsules of the bog Aeshagal gleam over the lesser water plants, and along the moister levels whole acres of tall Veratrums uplift their broad leaves and heavy spikes of cream-coloured and greenish flowers, and Caltha leptosepala abounds.

But I have hardly begun to describe the variety of plant life upon the shores of the lakelets, the alpine meadows and on the rock slopes. Around such lakes are vivid golden Ranunculi in many shades, purple-beaked Dodecatheons, dwarf Mimulus, yellow or pink, with crimson-spotted or copper-red hoods; bee-haunted Limnanthes, white and pale yellow; rose-tinted Claytonias, tall, fragrant Trifolium, red, white or purple-flowered, massed by dripping springs against still statelier Aralias, Ferulas and Heracloniums, or grouped with white and yellow Hosackias by the edges of splintered granite rocks, while under foot are nodding Pearl-worts, modest little Stellarias and Cerastiums and the water-loving Lobelia cardinalis. Creeping Violas, white, yellow, and blue, are blossoming by thousands in the warm half-shade, and by some of the Alpine lakes the dwarf Willows are mingled with purple-flowering Kalmias, fringes of Cassiope, fragrant Vacciniums, and Loniceras. If a mountain torrent falls into the lake hollow you shall find many Saxifrages, white, creamy brown or purple, hanging to the damp rocks. Primula suffruticosa will be there also, and where the spray dashes is the white-blossoming Rubus leucodermis. On almost every shel-

tered soil-covered shelf of rock millions of creamy yellow and purple-shaded Erythroniums begin to blossom as the snow melts and linger until the lake-shores fairly awaken. Hidden at the bases of the crags are multitudes of Aster and Aquilegias (*A. truncata*), and if one climbs far enough he can find the large-headed blue and white *A. cornuta*. Rose or flesh-coloured Dicentras hide among the grasses; Silenes, pink, white, scarlet, or purple, cluster about rock points; Castillejas, yellow and fire-tipped, deepening to almost crimson; vivid Zauschnerias, masses of blue Lupines, white and rose-coloured Phloxes, Pentstemons of pink, violet, and blue, rose-hued Spiraea, and silky, glistening cups of Lewisia rediviva, with an enormous number of showy composite, clothe the dry granite dust and furrows of the dark rocks. Helianthis, Wyethias, Erigerons, Golden-rods, Heleniums, and many others great and small, by lake-shores and streams and to the limits of alpine vegetation, mark the sway of the composite in the Sierras. Often the colour-scheme is strongly blue and gold for miles, for the tall Forget-me-nots, the lovely Gentians, such as *Gentiana Amarella*, *G. simplex*, and *G. calycosa*, the fine alpine Linums, Lupines, Larkspurs, and other vividly blue flowers quite hold their own with the rich composite.

Especially brilliant also are some of the alpine Ericaceae, such as *Bryanthus Breweri*, that dwarf evergreen with thick, obtuse, Heath-like leaves and saucer-shaped, rose-purple blossoms gleaming upon high and rocky peaks of the Sierras. Another lovely Hebe is the white or rose-coloured Cassiope, a suffrutescent evergreen with finely imbricated foliage. These grow far above the Oaks and the dwarf, trailing Manzanitas, where Hemlock Spruces, Tsuga Pottmanniana and mountain Pines, *Pinus albicaulis* and *P. monticola*, are the outposts of the great Sierra forests. Still one finds golden composite, brighter and more luminous than ever, in great masses close to the edges of the glaciers. Again, far down by the lake hollows the Mosses and other forms of lesser plant life take the place of the glowing hosts of the mid-Sierra. The Woodsias and larger Ferns disappear, but Pellaeas, Allosori, Cheilanthes and Cystopteris have grown in the shadows of craggy crags and in crevices of the giant mountains all the way from the land of Lilies and of wild Sierra Roses. On the grey pinnacles, among sky-blue Flaxes, silvery Astragalus, with cream-white and purple flowers and mottled pods, rattle sharply in the winds. Alpine Sages creep up from the Nevada desert plateau and make the eastern horizon grey. The blue and white Polemoniums, the hoary Lithospermum pilosum and other flowers of the highest peaks are found here in gardens of their own.—CHARLES H. SHINN, *Niles, California, in Garden and Forest.*

Gentiana Andrewesi.—Many years ago when growners of this plant had to realise that it never offered its flowers too late to expand in our English climate." It is, however, a showy plant externally, and its rich blue flowers in a group a foot high at the base of the rockwork are always very attractive at this season. For its lateness as well as its colour it is worth growing where a moist spot can be given it.

The Hollyhock.—This noble autumn flower, which had for years been nearly extinct, is again to be seen in the front. I saw in the garden at Craigsiefield, Midlothian, the other day, a few grand plants; these were raised under glass in the spring of 1895, and planted out about the end of June of that year. They did not flower last

autumn, and stood out all winter without protection. They were removed early this spring to their present quarters, where they have been flowering since the middle of August. One plant has produced five stems. On this plant were 465 double flowers, while on another plant growing near there were 436 pure white single flowers. —W. L. M.

Polygonum sphaerostachyum.—It is impossible to over-estimate the value of this brilliant and strikingly effective species. Blooming for several weeks in succession and producing its blood-red flowers on long cylindrical spikes give it an exceptional value among rock or border plants. The flowering stems attain to a foot or more high, and even in small plants it is effective. The plant is essentially a summer and autumn-flowering subject.

Tropaeolum speciosum.—This grows strongly here and has flowered most profusely, some of the shoots reaching the length of 12 feet. The plant has been planted several years in the same place. It is growing in a compost of peat and loam enriched with leaf-mould; the roots are on the north side of a terrace wall 5 feet high, and the shoots are brought over the top of the wall and trained upon a wooden trellis. It feeds freely. A fine plant of this Tropaeolum is growing upon the north wall of the village hall of Forest Row, about one mile from here. It is planted in the ordinary garden soil, which is good, rich yellow loam. This plant has produced fine shoots laden with flowers, but, owing to not having the bright ray of the sun, the colour is paler than in those having the full sun. I have lately seen other plants growing strongly and flowering freely. During the months of August and September ripe seed can be gathered and sown the following February or March. When large enough the seedlings should be potted into 3 inch pots and planted out during May or early in June.

W.M. CHRISTISON, *Kirkrook Park, Forest Row, Sussex.*

A NEW TULIP MANIA.

We find in M. Krelage's catalogue the following flowers of speech, descriptive of groups of Tulips: "Late Rectified Amateur Tulips," "True English Amateur Tulips," "True Flemish Amateur Tulips," "True Old Dutch Amateur Tulips," and "Darwin Tulips." Confusion must arise in the public mind from these things, and such language is no gain to our garden lists. It is surely time the Royal Horticultural Society stepped in and simplified Tulip names a little, using English names for garden varieties, and stopping this needless confusion about late Tulips, which are dignified by many names and called a variety of which there are not two.

It is not only that this misnaming is wrong in itself, but it confuses the fact that these so-called Darwin Tulips are simply the self-coloured kinds, once thrown on one side in the raising of the striped florists' late Tulip, varieties of *T. Geraniiflora*. People should now begin to see that the once rejected self colours of the late Tulips are the finest and most effective kinds, and "late self-coloured" Tulips is quite sufficient to distinguish them as a group, each variety to bear any simple name fitted for it that the raiser selected. As in the case of the Carnation, which has been kept out of gardens for years, owing to the misguided efforts of the so-called florists, and the Rose, which *rosariana* have tried to model on the form of a flat Dutch Cabbage, we see that similar silly ideals set up for the Tulip begin to be knocked on the head.

Then there is the misuse of Latin names for garden forms, as we see in Mr. Hartland's list under such names as *Tulipa gesneriana major aurantiaca maculata*, for Tulips that are of garden origin, and should have an English or some simple name. Latin names are often falsely, and quite needlessly, applied to plants of garden origin, and hybrids and varieties of garden origin. It is now agreed, should bear simple names only, as, indeed, some of our handsome late Tulips now

bear, such as Ida and White Swan. It is not a question of our own wishes only in the matter, as the question has been deliberately discussed by botanists at a conference, and the law as to names of garden varieties laid down, so there is no real excuse for giving a Latin name to any but the wild forms or species of Tulip.

In the catalogues that are now being showered, as freely as the autumn leaves, over the country, the precedence is always given to the Hyacinth, because in older times the Hyacinth was about the only bulb grown for the open air, or, indeed, for almost any other purpose, but it will soon be found that the Tulip, in its nobler forms, is a far more beautiful plant in every way for our open-air gardens than the Hyacinth. Hence the importance of a simple nomenclature, and of avoiding barbarous names which, whatever the effect on the general reader, must be supremely ridiculous to the scholar.—*Field.*

Galetia candidans planted late.—A useful hint has arisen concerning a rather late planted group of this fine free-flowering bulbous plant; and with the more permanent groups passing out of flower, those that were planted in March of the present year are now preparing to make a show equal to the first. This is worth noting because the season of its flowering may be so usefully extended by this means, the only noticeable difference being in the height the plants attain. Where a sufficient number of plants exist, a clump or so of the older bulbs may be lifted and retained in a dry state for late planting.

Carnation Uriah Pike.—If the editor had not dropped out smooth-edged from before Crimdon Clove, my note would have read differently. There are Cloves and Cloves. However, I wrote about this plant entirely from a border Carnation point of view. That Uriah Pike can by special culture be got to flower at any particular time does not affect the matter. My contention is that the flowers of Uriah Pike and the smooth-edged Cloves cannot be distinguished from each other, and in this I am supported by many persons, but I will content myself by making just one quotation. In Mr. J. Douglas's catalogue, Uriah Pike is described as a well-known crimson variety, with flowers resembling the old Clove. The plants in my case have been grown side by side and compared. Mr. Rigg, of Lyons, was here yesterday; he has done the same, and agrees in every way with me, so does Mr. Morrison, of Nairobi. Both these men grow Carnations by the thousand and grow them splendidly. The smooth-edged Clove is a good grower here, but not the rough-edged, dwarf plant, and the one called Paul Englehardt has died out.—T. SMITH, *Newry.*

Wall engraving.—The engraving (p. 214) and the accompanying notes are most interesting, and show what can be done in such positions and the effect that may be had. The walls of the abbey here are very old and thick, and made with rough stone, and it is astonishing how well many plants thrive thereon. Nothing can be more pleasing than to see a big patch of Wall-flower, *Antirrhinum*, and other things growing out of these walls. Many things are quite at home, and some Ferns, such as *Adiantum nigrum* and *Asplenium Trichomanes*, grow like weeds on the wall round the kitchen garden. But the most astonishing thing to me when I came here was to see how well the common garden Thyme grew on all these old walls. However severe the winter, this Thyme does not get killed, and when it is destroyed in the ground there is always a supply here. The common Mullein and wild Mignonette grow freely. Those who have those old walls or banks should throw any old seed they may have over them and watch the result. I have a long wall in front of the abbey; it faces south and is covered with old-fashioned Rock Clematis, and many other climbing plants. The border in which these are growing (which is about 2 feet wide) I devote to growing a large number of tender plants such as Ivy-leaved

Geraniums, Heliotropes, Salvias, early blooming Chrysanthemums, Agathaea, &c. The *Anagapanthus* has this year bloomed profusely, and it has stood out in this position for the last seven years. The white Tobacco is charming in this position. All of these with hardy Cyclamens, &c., make a fine display through many months, and by placing a slight covering over them in autumn they go on blooming till early in November. I place from three to six plants together and these give a fine effect.—J. CROOK.

SHORT NOTES.—FLOWER.

Iris cuprea.—**Erratum.**—In my note on this Iris (p. 187) there is an error, the word "sand" being printed for "sunk." My experience is that it is essential to the well-being of this species.—J. C. L.

Lilium tigrinum.—**Fortunei.**—This is, with me, the best of the Tiger Lilies. Last year a large clump stood about 7 feet high and was in flower for many weeks. This year its stature is considerably less and the blossoms are giving signs of lasting a shorter time. *L. tigrinum splendens* never attains the height of Fortune here, nor does it bear so many blooms, though the individual flowers are slightly larger. The varieties are easily raised from the bulbs which are to be found each autumn at the axils of the leaves, and which will form flowering bulbs in three years or so.—S. W. F., *South Devon.*

GARDEN FLORA.

PLATE 1085.

TWO USEFUL ALPINES.

(WITH A COLOURED PLATE OF SAXIFRAGA MUNCODES RHEI AND ONOSMA ALBO-ROSETUM.*)

The charming coloured plate in the present issue will doubtless serve a two-fold purpose, as not only does it bring into prominent notice two very useful and pretty alpines, but at the same time serves to demonstrate one of the many charming ways in which such pretty subjects may be associated together in planting a piece of rockwork. In this way those readers who are contemplating any such work will have an object lesson before them. Beyond this, numerous instances may be given where the most beautiful of alpines may thus be associated, and thus tend to make the rock garden one of the most pleasant spots in the garden. No one will deny that the plate from an artistic point is a most beautiful one, but, if memory serves me rightly, the plants figured were associated in just this way on one of those delightful bits of miniature rockwork that visitors to the Drill Hall in early spring are getting accustomed to see from the Hardy Plant Nursery at Guildford. These exhibits so invariably consist of beautiful alpines and shrubs of miniature growth, that an hour or more may readily be spent in inspecting them. In the first place, because the exhibit as a whole comes as a most welcome change to that incessant making up—invariably the day before the show—of small pot plants, or rather the placing of such in shallow pans. The exhibits of alpines from York and Guildford are generally teeming with interesting and beautiful plants. This is exactly as it should be. Once a start has been made with a dozen or two choice alpines and a small bit of rockwork, it is surprising how quickly such interest develops. But even when making so small a beginning as this the beginner will do well to seek sound advice in the selection of suitable species. In the many departments or branches that may be found in

* Drawn for THE GARDEN by H. G. Moon at the Guildford Nursery. Lithographed and printed by J. L. Goffart, successor to Guillaume Severeys.

W. GRANGER
25 1896

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1. SAXIFRAGA MUSCOIDES RHEI - 2. ONOSMA ALBO-ROSEUM

outdoor gardening, that of growing choice and beautiful alpines successfully is one of the most enjoyable. It is suitable also to gardens of such limited size, that a piece of rockwork a few yards across may easily be made the home of quite a large collection of kinds, the miniature growth of many species often enabling the cultivator to embrace quite a representative collection. It must, however, be understood by the beginner that all alpines are not of pygmy growth; far from it, indeed, in many instances when they are brought into cultivation in gardens in the lowlands.

Under these latter conditions many things spread quickly and assume a vigour quite new to that of their native habitats. Again, many are improved by the change, while others never seem truly happy under the incessantly moisture-charged atmosphere of the average English garden. The *Onosma* in the coloured plate is an instance of a beautiful alpine, though it must be admitted a somewhat fastidious one and at times difficult to winter in our English climate. The messy Rock-foli, on the other hand, is at home in the rock garden almost in any position, though preferably a rather moist spot, or with a fair depth of soil. And equally so in the border, where it quickly spreads out into dense mossy cushions that are freely covered a long time in the spring of the year with delightful pink flowers. And it is just possible that those making a start in growing alpines will find greater satisfaction from such as these latter, although of course a primary consideration always must be the space at disposal, as also the aspect and so forth. A few quick and easily-grown things that invariably satisfy the beginner by reason of the masses of flowers are Saxifrage *Campois*, such *Phloxes* as *Nelsoni*, *atropurpurea*, *The Bride*, *Vivid*, *lilacina*, *compacta* and *amena*; *Aubrieta Leichtlinii* and *A. violacea*, *Silene alpestris*, *Saxifrage luteo-purpurea*, *Iberis correaefolia*, *Hutchinsia alpina*, *Draba aizoides*, *Dianthus alpinus*, *Daphne cneorum*, *Campanula isophylla alba*, *C. cespitosa* vars., *Aquilegia caerulea*, *A. alpina*, *Arnebia echinoides*, *Adonis vernalis*, *Acantholimon venustum*, *Achillea rupestris*, (*Enothera macrocarpa*, *Pirola*, *pedata*, *Primula rosea*) in moist and shady nooks with deep rich soil, and many others equally hardy and vigorous, as well as of the easiest culture and free-flowering withal. A selection of this kind at the start will invariably satisfy, and in the end create a desire for the rarer kinds which are easily added and accommodated with soil and position at will.

Coming more directly to the genera represented in the plate, I will take the *Onosmas* first:—

ONOSMA ALBO-ROSEUM is as yet a somewhat scarce plant in commerce. It has white or bluish-white flowers, which are drooping and inclined to tubular in outline. It is a distinct and pretty plant, and an interesting companion to the other members of this genus. Though frequently coming through the winters safely, it cannot be considered so reliably hardy as the better-known kind *O. tauricum*. When planting the above, a well-drained chink where its roots may descend deeply in a free gritty loam in a sunny position, avoiding

manure of any description, is the best position. Further description of the plant is scarcely necessary, as the artist has portrayed it in a perfectly charming and realistic manner in the coloured plate. The other species of this genus are:

O. tauricum, a very charming plant of biennial duration. Its flowers, which on large plants are abundantly produced, are of a rather pale yellow, and in favourable seasons seeds are freely produced. A warm, sunny exposure suits it well. In general habit the plant resembles *O. tauricum*. Native of Southern Europe.

O. SIMPLICISSIMUM is a perennial species from Siberia, with terminal racemes of pale yellow flowers. I have not grown this species and am unaware if it exists in cultivation in this country.

O. STELLULATUM is a variable species, having flowers either white, yellow, or citron in colour. A native of Macedonia, growing about 6 inches high.

O. TAURICUM (Golden Drop).—This, the best known of the genus, is also the most worthy,

if possible, so placed that the tufts of leaves may rest on a sloping ledge of rock, so as to keep fairly dry in the top soil of lumpy peat, and equally lumpy fibrous loam, with sand very liberally added (quite a fourth part), and charcoal dust to a like amount. This and a raised, well drained position in the rock garden will do as much as cultural aids can do for one of the best hardy plants. Its propagation is a rather slow business at times and must be done by means of cuttings, stripped off with a heel any time during May or early in June and inserted in very sandy soil (in pot preferred) without further ado. I never use a knife to a cutting of this plant. Given a thorough watering and left to dry for an hour, the frame should be closed and slightly shaded. With careful after-management the cuttings at this season root in about three weeks, and may then be potted off singly in much the same soil as recommended above. A cold frame or handlight is much the best for its propagation, and handlight plants are worthy more care in planting. Native of Caucasus. These, together with

O. PYRAMIDALE, a modern introduction from the Western Himalayas, constitute the known members of this genus. This last is described in the "Dictionary of Gardening" as having "a corolla of bright scarlet, fading to lilac; stem 1½ feet to 2 feet high, stout, and pyramidal-branched," and is figured in *Botanical Magazine*, 6987.

The other genus represented in the coloured plate contains a very long list of species and almost endless varieties. So many of these are so well known that no mention of them is necessary here. That mentioned in the plate—*Saxifraga muscoides Rhei*—is one of the most charming of the mossy section and a plant that should be in every garden. Though little is known as to its origin, it must not be regarded as identical with the well-known mossy *Saxifrage*, *S. m. atropurpurea*; indeed, Mr. H. S. Leonard, who exhibited the plant, in an interesting communication respecting it says: "S. m. *Rhei* is certainly distinct from *S. atropurpurea*, though I own the colour a little approaches it. S. m. *Rhei* is a lovely pink, the other comparatively dull." This is obvious at a glance to all who know the older variety, while its tufted hillock of Moss-like growth is also distinct. The plant usually sold by this name has white flowers, and as nothing is known decisively as to the origin of this beautiful plant, I should feel grateful to any reader of THE GARDEN, who has closely studied the genus, who can throw any light on the history of the plant in question, which is believed to be a hybrid having *S. atropurpurea* for one of its parents. Mr. Leonard further says that it is "an invaluable plant for either the rock garden or border or of the easiest culture. The lively pink flowers with which the plant is studded is a colour not yielded by any other garden *Saxifrage*." So beautiful a subject will undoubtedly receive the attention and popularity it deserves, as no garden making a feature of choice hardy plants could afford to be without so exquisite and dainty a flower. From two coloured members of this mossy section some beautiful hybrids should quickly result that would give greater beauty still to our gardens in the early days of spring.

E. JENKINS.

Agapanthus umbellatus.—This is at the present time one of the most striking plants in the garden, its fine heads of blue flowers standing out conspicuously above the ample foliage. Though more frequently used in large tubs for the decoration of the terrace garden, there is no need for its exclusive use in this way, as effects equally fine may be secured by planting or plumping the specimens in large beds. In the more favoured districts the plant is nearly hardy in the open all the year round, and even in



Golden Drop (*Onosma tauricum*).

and in good condition is a striking plant. The plant attains to about 15 inches high when fully grown, though rarely seen more than half that height. In habit it may be regarded as more or less an evergreen perennial, of a spreading, tufted growth, and from which in spring issue the flower-stems. These are slightly branched, and furnish during May and June large clusters of drooping yellow and fragrant flowers that are singularly effective. Indeed, it is from the clear, pleasing yellow tone of the corolla that it has received the rather appropriate name of Golden Drop. This is undoubtedly one of the choicest of hardy flowers, better adapted, as a rule, for a well-chosen position in the rock garden than anywhere else. One of the very finest plants I ever saw was growing in the long herbaceous border at Hale Farm in 1875—a dense, compact tuft fully 18 inches across, and bearing many spikes of its golden yellow blossoms. Generally speaking, however, it is short-lived in the border and requires care in any position. Shade should always be avoided in its culture, and the plants,

south generally its hardness is by no means sufficiently recognised. Given greater freedom in the open ground and planted in deep rich soil in sheltered spots, fine results could be obtained. —E. J.

THE WEEK'S WORK.

KITCHEN GARDEN.

CUCUMBERS.—Where the supply from pits worked on the hotbed system has to be kept up as long as possible, much care has to be expended on the various details of management, the most important of which is to keep up the supply of heat from the manure linings and to prevent an excessive rise or fall in temperature; this can only be done by constant attention to the linings, a portion of which should be renewed every week and never much at a time. My method of doing this is to throw out the outer linings right to the bottom in lengths of 8 feet or so, and to immediately rebuild the same by mixing in with a portion of the old material a similar bulk of manure fresh from the stables, building this right up to the level of the lights. This gives, in my own case, a depth of 6 feet of fermenting material at the back of the pit and about 4 feet at the front. Such a body of well-mixed manure will throw out a lot of heat and be maintained by doing the work piecemeal and renewing each portion before the heat in that portion has fallen very low, a good steady heat may be maintained inside the pit. Of course this gives much more trouble than heating by hot water, and I do not recommend those who have plenty of pits heated on the latter system to struggle on with such work much longer. At the same time, all that can be done in this way means less need for over-cropping (or early cropping, which is almost as bad) those plants grown especially for winter fruiting, as with genial weather, plants in manure-heated pits will fruit well into November. Those plants which I recommended to be raised specially for winter will now be showing fruit, and should be encouraged to swell these off rapidly by giving a top-dressing of bone-meal, this to be covered with a little soil, which must be well warmed through before being applied to the surface, and by giving only sufficient air to keep the surroundings sweet, taking this off altogether soon after mid-day. The plants will be further helped by having the lights covered with mats by night, and all trouble of this kind taken with these young plants will be amply repaid by the fruits being of richer quality than those given by older plants which have already borne a good crop. A minimum temperature of 65° to 68° will be maintained, and the fruiting shoots should be stopped at one leaf beyond the fruits. The winter-fruited plants, or those intended to immediately succeed those now fruiting, should be planted out or potted into the fruiting pots at once, for the sooner they are established the better they will succeed. It is not necessary to give them at first a big bulk of soil, as this may be added as the plants develop. Keep the plants well tied up to the wires or other supports and preserve all leaves from injury, as the loss of a few main leaves while the plants are young does them considerable injury. The earliest fruits should be removed if not yet wanted, as their removal will help the plants considerably and reserve their energies for fruit-production when most wanted. I dealt with other details in the management of winter Cucumbers a few weeks ago, so need not repeat what I then wrote, but I may add that all hot-water pipes which do not come into almost direct contact with the plants should be painted over with a thick coating of flowers of sulphur to keep down red spider and the greenfly, and I advise to sprinkle over any available surface with the same thing in a dry state with the same object in view, as such pests are more easily established than got rid of during the winter months. A further batch of seedlings should now be raised, and these will come in for cropping after the turn of the year. I ad-

vice that Rochford's Market Favourite be added to those I have before recommended. I have grown this largely as a summer fruiter in manure-heated pits this year, and have been astonished at its great cropping power; the fruits too are of excellent colour and size, and though I have not yet tried it for winter fruiting, it appears to have all the attributes of a model variety.

MUSTARD AND CRESS.—These being always in request, it will be time to change quarters for raising and growing the supply, as sowings made outdoors are both uncertain and slow in growth after this month is out. Though the cultivation is the simplest, failures are not uncommon, and many of these are due to the soil used, for though not at all fastidious as to its nature, they are as to its sweetness, and if this element is not present, sowing after sowing may be made, with the result that each batch damps off before it is fit for use. The same soil must never be used a second time, and it is not sufficient to scrape off a little of the surface soil in the pan or boxes used and to replace it with fresh soil, directly the roots reach the roots from a previous sowing, a collapse takes place. Again, in most instances taking a bag of soil is used, and when one sees the excellent results obtained by growers for market, who use quite shallow boxes and crowd the seed on these as thickly as can be laid in a single layer, one gets an object lesson that should not be forgotten. Thus sowing on about 4 inches of soil is nevertheless persisted in by many who get the mistaken idea that fogging or damping off can be and is caused by the plants being crowded. I get the best results from sowings indoors when these are made in ordinary cutting boxes 3 inches deep. No drainage is used except a thin layer at the bottom of broken up decayed horse droppings, and on this is put sufficient garden soil or the waste from the lumen heap (if the latter is used a little fine leaf mould is mixed in to lighten it) to bring the surface within an inch of the tops of the boxes. This is then well watered and the seeds thickly sown on the surface and pressed on to the soil. The boxes are then put into a house or pit where a gentle heat is kept up, but not on or near the hot-water pipes, and are covered with roofing slates or sheets of brown paper until the young plants press hard against the covering, which must then be removed and the boxes transferred to cooler quarters. To keep the supply good, weekly sowings will be necessary, and the Cress for which batch should be sown about three days in advance of the Mustard; the latter being the quicker grower, gets to the rough leaf before the Cress is ready. New season Mustard seed is far preferable to older seed and should be used for winter work.

WATERCRESS.—Fresh green Watercress may be produced during the winter if some half-grown plants are now lifted and boxed up in fairly rich soil kept well watered and put into heat later on as young shoots are required. These will not be stout as those grown naturally, but they may be had good in colour and taste.

LEERS.—The early Leeks should now have a final earthing up if a good length of bleached stem is required, but I do not advise that a big body of soil shall be drawn up to the plants, as the extra weight appears to cramp the growth; besides which, the soil gets between the leaves and causes much trouble and waste in cleaning. Where the plants were set deep at planting time, as I advised, there will be already a good length of buried stem quite sufficient for most purpose. Later plants may well be let alone for the present, as the longer earthing is postponed, the more likely will they be to stand severe weather unharmed. Growth is being rapidly developed under the influence of heavy rains and a dull winter, therefore the liquid manure often advised for the plants during the autumn will hardly be required.

COLEWORTS.—Any available space that can be spared should be filled up with these valuable little members of the Cabbage tribe should any still remain in the latest sown seed-bed. Though

these may not make big hearts, they will in all probability come in very useful at a time when green stufts are scarce, and as they are among the hardestiest members of the tribe, they should be largely planted. Earlier batches will be effected by having a little soil drawn up to their stems before they get too big to permit this necessary item being done.

GARDEN RUBBISH.—Rubbish or waste from crops will now be accumulating rapidly and will require to be dealt with in some way. My own practice is to gather it together in an open spot, where it may be burnt when the heap gets big enough. The practice in some gardens is to open the first trench on a piece of ground that is to be trenched during the coming winter, and put much of the garden waste into the trench, but I see many objections to this mode of treatment, and certainly those who burn the rubbish can claim to have done the best thing possible towards keeping down insects and diseases, and also to having provided a cheap fertiliser in a handy form.

GENERAL WORK.—French Beans under glass should be supported with some twigs under sticks; the smaller these are, provided they are strong enough and tall enough to support the growth, the better they are for the purpose. Plants which have their heads held up to the light set their pods with greater freedom than do those which are allowed to hang about loosely. Celery which will be required for use before the middle of November should have more soil banked up round it, but this need not be so carefully done as will be requisite with that for later use; and, provided sufficient is put on to cover the point which the heart will reach in the meanwhile, this will be all that is necessary. The cleaning of any ground that is infested with perennial weeds or those annual kinds which may be approaching the seeding stage, should occupy all the time that can be spared for the work in dry weather; this will prevent much trouble next year.

J. C. TALLACE.

HARDY FRUITS.

There are many things in this department that require attention at this time of the year. So far the month of September has been unusually wet, there having fallen in this district over 5 inches of rain; therefore, where the ground is at all loose and the land level, the soil is moistened to a considerable depth, and where retentive it will not become too dry again during the present year when the weather becomes unusually fine. Trees from which the early crop of Apples and Pears were gathered and that were not cut closely pruned, may possibly show signs of expanding many of their flower-buds on account of the premature ripening of the wood should the present warm, moist weather extend far into the next month. To prevent this, take out a trench all round the trees at a distance of from 6 feet to 8 feet from the stem, according to their size; by so doing there will be sufficient check to prevent further mischief. On good land, such varieties as Bramley's Seedling and other strong-growing kinds have made extra stout wood. To induce them to plump up their fruit buds the trees may be treated in like manner, but much care and forethought are necessary, for we so often see trees suffer to such an extent owing to the ruthless manner in which root pruning is done, that it is far better to let it alone than disfigure them in such a manner. Root-pruning may be a great advantage when done in a scientific way, but to cut round the tree a few inches from the stem is neither practical nor sensible. To ensure fruitfulness in young trees both of Apples and Pears it sometimes becomes necessary to restrict their roots, but they should not be wholly removed. To cut back in winter the shoots of trees growing too luxuriantly only aggravates the evil, for does not stronger wood come again the following season? Trees of this description need their roots restricted, but this should be done in a practical manner. A trench should be taken out at such a distance from the

stem as only to cut off the points of the roots, the soil on one side of the tree may then be taken out, and after bringing the roots nearer to the surface, it may be filled in again. The other side of the tree ought to be left for another year or two before any attempt is made to interfere with it; if this plan be adopted, the shoots will doubtless jump up their buds and flower next season more profusely. This work should always be done in time, that new roots may be formed before the soil gets too cold, for by so doing it is seldom the trees fail to mature their fruit properly the following season, it also does away with any risk of failure should the summer be dry. There are many kinds of Apples and Pears that do not require lifting to induce fruitfulness; on the contrary, they make so little growth that flowers are produced in such numbers as to completely prevent the making of wood buds. Such varieties ought to be encouraged by liberal treatment at this season of the year, that the roots may find sufficient support in spring to cause them to make a free growth; such varieties, for example, as Stirling Castle, Lane's Prince Albert, Potts' Seedling, Frogmore Prolific, Ecklinville, and some others. On cold, stiff land their roots should be kept near the surface, when, if well fed, they will produce fine fruit. The other day I saw 5 acres of Bramley's Seedling, the growth of which was of extra strength and no signs of fruit buds. To lift such a quantity would mean considerable labour and expense, to prune them back would only tend to cause them to grow still stronger. In the points of the roots of those which should be lifted at the present time the wood would doubtless ripen much more satisfactorily, and in all probability prevent such a rank growth another season.

Please, unlike Apples and Pears, seldom need to have their stems disturbed; in fact, when they have once arrived at a fruiting condition it rarely happens that they make too much growth, until it may be cordons or those grown on heavy soil. Such in some seasons, when the crop is a scanty one, make sappy growth which does not ripen, in which case some of their strong roots may require checking. On sandy land with a gravelly subsoil, or on chalk, it is seldom the trees make too much growth; more often the trees require feeding to keep them in a flourishing condition, particularly during a dry season when carrying heavy crops of fruit. Trees against walls on such land need much support; this is especially so where there is a slight rainfall, as in some places in the south. Those growing against walls with an eastern aspect are inclined to suffer most, as but little rain reaches them. If the borders are thoroughly soaked during the autumn and winter it is seldom the trees suffer through the early part of the season, but, unless the soil remains dry, the roots are well moistened before growth commences in spring, the trees do not push so robustly, and are therefore not able to resist the attacks of green fly and other insects that are so prevalent at that time of the year. Those who are short of water and are dependent for their supplies on tanks, would do well to take advantage of the fact, and instead of allowing the water to run to waste when the tanks are full, it should be used for watering the borders that are dry, previously loosening the soil, that it may more readily penetrate. Where it is contemplated renewing such borders with a view to replanting, particular care should be taken to examine the soil for wireworm, for though this pest may not do any damage to the roots of the fruit trees, they will cause much destruction by feeding on those of the vegetable crops that may be planted in the borders. In many gardens in the south there is a difficulty in keeping up a supply of Plums till late in the season. Where this has to be done, such varieties as Monarch, Coe's Golden Drop, Coe's Late Red, Autumn Composite, Archduke, Blue Imperatrice, Imperiale de Milan, and Decaisne should be grown where they could be protected from the wet.

FRUIT ROOM.—Owing to the unusual amount of moisture in the external atmosphere, that of the

store room is kept very damp. A current of air should therefore be kept up to prevent the moisture from settling on the fruit. The air in such places is usually warmer in the night than that outside, therefore there is no danger of any harm happening to the fruit, but the ventilators be left open. It is during warm, dry days that the fruit is colder than the external air, that the moisture settles on it and causes decay. On such days only a small amount of air should be admitted. Fire-heat is not necessary to expel damp, though in very cold weather Pears are improved in flavour if ripened in a warm room. A portion of them may therefore be taken and placed on a dry shelf where a temperature of about 50° can be maintained. Here they will ripen satisfactorily.

H. C. PRINSEY.

ORCHARD AND FRUIT GARDEN.

NOTES ON STRAWBERRIES.

The Strawberry being much appreciated here, is in great demand and therefore extensively cultivated outdoors. To keep abreast of the times it has always been the rule, in order to secure the best varieties and suited to the soil, to give the new kinds as introduced from time to time a fair trial. Many, I must admit, in fact the majority, have never got beyond the trial stage, but in no case has any variety been discarded until its merits have been thoroughly tested. This method of selection has naturally led to a large number of varieties being tried, so much so that I was somewhat struck when looking through a trade list of Strawberries the other day at the large number that have passed through the ordeal, and how few, comparatively speaking, have been retained. These trials have extended over a considerable number of years, and when first commenced the varieties then cultivated here consisted of Keens' Seedling, an old-fashioned white-fruited kind, and President, which was given up owing to its colour being poor. Sir Joseph Paxton was the first to be introduced. This kind answered so well and has continued to give such thorough satisfaction, that it has constituted the main stay up to the present time. Dr Hogg, La Constante, and Sir C. Napier were also bought in at the same time. The first-named was fairly good for one or two seasons, but its want of constitution on the soil led to its being abandoned. La Constante and Sir C. Napier turned out well and have been cultivated up till within the last few years. Marguerite, Trollope's Victoria, Lucas, John Powell, Comte de Paris and Cockscomb were all several years in turn, and were one and all discarded. Vicomtesse H. de Thury and Pauline were then tried and met with the same fate. Vicomtesse H. de Thury, which I have seen in other places bearing immense crops, was almost a failure here, and to make sure that the plants were true the runners were procured from two reliable sources. Pauline cropped well, but its shape and want of flavour were its great drawbacks. Countess I grew in 1892, but although a good cropper and a fine-flavoured Strawberry, the colour was not good. Helen Gloucestre gave large fruits and the flavour was also good, but the appearance of the fruit was not sufficiently attractive to warrant its being retained beyond the second season. Oxonian then came on for trial, and proved so good the first and succeeding seasons, that it has since been grown almost, if not quite, exclusively for late crop. British Queen has been tried over and over again and in various parts of the garden, but without success, the plants dwindling away on our heavy soil. La Grosse Sucrée

and Stirling Castle Pine are two kinds that were fairly good for a time, but want of size in the fruits told against them, otherwise the flavour was good. Waterloo and Loxford Hall Seedling, two excellent late varieties, will not succeed here, and the same may be said of John Ruskin. Noble, Commander, Competitor and Captain were all satisfactory as far as regards size and cropping qualities, but had to be given up on account of deficiency of flavour. Empress of India, Gunton Park and Lord Suffield all gave excellent results, the two last-mentioned being considered the best of the trio. Auguste Nicaise was not at all good, although it is an excellent forcer. Royal Sovereign turned out to be thoroughly good at the outset. I consider it one of the best Strawberries I have, and by far the best of Laxton's seedlings that have passed through my hands.

By this it will be seen how many have been tried and found wanting, as they did not come up to the requirements of size combined with good colour and flavour. Although many of the foregoing varieties mentioned have not succeeded here, I should be sorry to condemn them on that account, as some of them may and do succeed in other districts, of which I have had ample proof at different times. My reason for penning these notes was chiefly to show the vagaries of Strawberries which, like other fruits, do not succeed on all soils alike. Some may advance the argument that I am too fastidious in the matter, and perhaps with a certain amount of truth, but as none but the very best Strawberries are countenanced here, this has to be taken into consideration when selecting and determining which are the best varieties to retain.

To sum up, it will be seen by the foregoing that the varieties considered to be first-class from my point of view are Keens' Seedling, Royal Sovereign, Lord Suffield, Gunton Park, Empress of India, Sir J. Paxton and Oxonian. The two new varieties, Monarch and Leader, will be tested another season.

A. W.

Stoke Edith Park, Hereford.

Peach Raymackers.—I am pleased to see a note from "S. E. H." in favour of this fine old, but little grown Peach. I have it in a late Peach house, where it never fails to give a crop that comes in with the latest varieties and never before September is in, this lateness giving it an exceptional value. The tree is a good healthy grower and will carry a heavy crop of fine, well-coloured and well-flavoured fruits. The flavour, however, varies with the weight of crop, as if cropped too heavily, flat flavoured results, and I find that the so-called "peaches" of the late varieties, which should in consequence be thinned more severely than need be done with earlier croppers. Late Peaches have a greater market value than midseason varieties, and were I going to plant for profit I should be inclined to give a considerable amount of room to varieties like the one in question, and which can be had fit to eat after the middle of September. I have a seedling from Raymackers which has fruited for three years in succession; it is even later than the parent, the first fruits now (September 15) only just softening on a south wall with full exposure to sun. I find this very valuable, the flavour and colour being excellent, though it is not in size quite equal to some other varieties.—J. C. TALACK.

Pear Windsor.—This old-fashioned and almost extinct autumn Pear has done well in two gardens hereabouts this season. One tree is growing on the south front of a cottage's dwelling, and has a fine lot of fruit on it, the other being in a gentleman's garden a few miles from here, and occupying an east wall. I am willing to admit that the flavour is scarcely equal to that of a Jar-

gencelle, but then it is the matter of a fortnight later in ripening, and prevents a blank when that popular but indifferent keeper, and such sorts as Souvenir du Congrès, Fondante d'Automne, Beurré d'Amansis, and Beurré de l'Assomption. The foliage favours that of its near rival Jargonne, but is even more distinct with its dark shiny hue and prominent white veins.—J. C. N.

Blackberries.—In some districts of South Notts Blackberries are very plentiful this year, even more so than usual. They occasionally reach Newark market by the dray load, being gathered for the most part in the Sherwood Forest and Dukery district. One individual residing hereabouts sends out a horse and dray, with baskets and pickers, the latter consisting of women and children who are paid by the stone for picking. To show the incredible numbers which are gathered it may be mentioned that the supply being sometimes greater than the demand of the local markets and shops, consignments are sent to London, Manchester, and other large centres, thus showing that a considerable profit is made out of even the humble Blackberry.—J. C.

Peach Grosse Mignonne.—In some gardens this Peach is much addicted to dropping its fruit both at the stoning time and also when colouring commences. I recently saw a fine healthy tree occupying a wall in a lean-to house which had dropped the greater part of the crop at the latter-named stage, while alongside of it stood under exactly the same treatment, Mr. Dymond, Barrington, Royal George, and others which had carried their crops to maturity. Some gardeners complain of the shyness of Grosse Mignonne in setting its fruit, especially when started at the new year and subjected to heat. Early Grosse Mignonne is, however, a good and certain variety and of exquisite flavour. No doubt the two Peaches are frequently confounded.—J. C.

Pear Beurre Hardy.—This is a wonderful cropper, and the season is indeed to be a bad one in which it does not fruit. For a Pear raised abroad it is very hardy, and an excellent grower either on the Pear or Quince stocks, and it succeeds equally well grown as a pyramid or bush, or trained against a wall. Cordons on the Quince are very fertile and the fruit is also more highly coloured than that on trees in the open garden. Even on bushes or pyramids the fruits take on a rich colour and attain a good size, quite large enough for general purposes. It is a good market Pear, as size and appearance in addition to good flavour are its chief characteristics. With me the trees are generally so heavily cropped that it is necessary to gather the fruit earliest about the third week in September and the remainder ten days or a fortnight afterwards. In some gardens the mischievous tom-tit attacks the fruit so badly as to spoil a great number in a very short time.—A. W.

Apple Red Astrachan.—This very showy, but in the majority of gardens unprofitable, Apple is this year, for the first time in thirteen years, carrying a fair crop of fruit as a standard. Trees in local nurseries are also fruiting, and they are being purchased by those having no experience of its capricious character, its brilliant appearance taking the purchaser's eye. I have it also in espalier form, but in spite of repeated root prunings and removal from one place to another, it still remains practically barren. A friend of mine in Essex who grows espalier Apples well considers Red Astrachan about the most unprofitable effort for the purpose in existence. There is not much fault to be found with its flavour if one could only get it to crop.—C. C. H.

Pear Jersey Gratioli.—For many years this has been grown as a cordons on a west wall here, but a few years ago I planted a bush tree of it as an experiment. This sordid fail to bear fruit, though the fruit always coming fine and clean and the flavour first-class. It is a distinct looking Pear, the skin being yellowish-brown in colour, tinged with green, and conspicuously marked all over with large russet spots, and the surface is rather rough. Its season is October, but this

year it has ripened earlier than usual, and it will keep much longer than the generality of early ripening Pears. For orchard house culture Jersey Gratioli is one of the best varieties; and those about to form a collection for this purpose should include one or more trees in the list.—A. W. Stuke's Edith.

Vines sporting.—A very curious case of sporting in the Grape Vine is noticeable at Chiswick in the large vineyard, where one of the plants of Muscat of Alexandria is now carrying a perfect bunch of Canon Hall Muscat, while above and below no sign of sporting are apparent. There is also a similar freak on another rod, but the bunch is smaller.

STRAWBERRY ROYAL SOVEREIGN.

Over late years we have had no lack of new varieties of Strawberries, and several of them of good quality. The above has now been a sufficient time before the public for its merits and value as a forcer and early cropper to be known. This variety is also of splendid flavour, a leading feature in any new fruit. I do not assert it is equal to British Queen, but it is superior to many others. Most growers interested in Strawberries know that Royal Sovereign was



Strawberry Royal Sovereign.

the result of crossing King of the Earlies with Noble, the former a delicious fruit—indeed, one of the earliest, most productive, and richly flavoured fruits grown, but lacking size. This, with robust habit, Royal Sovereign has obtained from the other parent. It is one of the late Mr. Laxton's seedlings, and was the best out of many hundreds. Few new fruits have made such progress as this, as it has only been before the public four years. It received a first-class certificate in June, 1892, from the Royal Horticultural Society; again at Chiswick after trial in 1893, and again at the Gardening and Forestry exhibition the same year, with other awards at provincial shows. I feel sure it will be one of our best Strawberries for many years. This variety will thrive in any soil, and is not fastidious as to locality. As seen by the illustration, it bears freely. After running through the various notes sent by correspondents all over the country, it is surprising how many when describing the crops speak of its merits. In all the notes on it that have appeared, I think there has as yet only been one who descipted it.

As a forcer I do not think it can be equalled. Last spring I forced 1000, and was so pleased

with the results, that I have doubled the quantity this year. For packing to send a long distance it is a fine fruit, and, what the forcer so much values, there are few small fruits. As regards earliness, it is one of the first and sets very freely, with strong, long stalks well out of the leaves. I forced my crop noted above in two lots of 500 each, and the earliest was ripe the first week in April, but I should not hesitate to get an earlier supply, as it forced grandly. It needs abundant moisture overhead during growth, as, like all Strawberries with soft foliage or covered with hairs, it is a prey to red spider. I now come to

OPEN-AIR CULTURE,

and here, I think, it excels. Requiring a large quantity to follow the latest indoor or frame fruits, for years I depended upon Noble under a south wall, and in bad weather sashes were placed over the plants. The newer variety is equally early and far superior. Those who grow young plants will obtain very early fruit and of first quality. It is necessary to plant early—the end of July or early in August—to get good plants, and, as most growers are aware, such plants give the earliest and finest fruits. I have this year increased my number of this variety for early fruiting. No variety I have looks better and makes such fine crowns. This is a great gain, as many will be able to grow it who otherwise could not. I class it as an improved Sir J. Paxton, but earlier. I do not know of any variety equal to it as a cropper. The flavour, too, is excellent and the colour good—a glossy bright scarlet, and flesh firm. The fruits are covered with rather prominent seeds, these protecting the fruit when sent long distances. It is a handsome fruit, mostly conical, as seen in the illustration.

G. WYTHES.

PEACH SALWAY.

MR. WYTHES, in his lengthy remarks on Peaches—in which he also gives a very comprehensive list of varieties for all seasons—says he does not recommend Salway, which is the latest of all. Now, although this old-fashioned Peach is only third-rate when ripened on open walls or under the most retarding treatment under glass, yet, when favoured with a good position, well cultivated, and started so as to mature about the commencement of September, it develops a flavour which is really not to be despised. Only last week I saw a fine crop of Salway at Leadenham Hall, Lincolnshire, just ready for picking. The fruit, owing to the excessively heavy crop, was not quite of normal size, but under the bronzy red skin were pulp and juice, which to my taste were most refreshing. Mr. Mackenzie (the gardener) also considered it worth of a price. As he had said, described, and pronounced as being less worthy than Salway, and in so doing he had of course only followed the course of the majority of Peach growers, this perhaps largest and handsomest of all Peaches, being only fit for staging in collections of fruit at exhibitions, in which position it has many a time created quite a sensation. When put up as a single dish, however, it stands a poor chance against such standard varieties as Noblesse, Royal George, or Violette Hâtive, old practical judges knowing too well where the quality lies. It may be argued, why grow Salway when there are so many better varieties, but the fact is that even in Peach eating all palates are not alike, and the case of the tree under notice goes to prove that Salway is one of the many naturally late-ripening Peaches which may be greatly improved both in appearance and flavour by affording them a better position and a little more warmth than are usually given. When at Leadenham I was both surprised and pleased to hear of the revival and vigorous growth of two trees of Royal Charlotte, which on a former visit were

considered both by Mr. Mackelvie and myself to be on their last legs. Both were cut back to within a very short distance of the point of union with the stock, this resulting in the wholesale formation of young healthy growths, an ordinary Peach tree area of trellis being covered in three years. Mr. Mackelvie considers Royal Charlotte to be the best of Peaches—somewhat like Royal George in size, shape and general appearance. It crops more certainly, and has not its very objectionable propensity of taking mildew. Royal Charlotte seems to have nearly gone out of cultivation, as one looks in vain for the name in the catalogues of both metropolitan and provincial nurseries.

J. CRAWFORD.

MUSA CAVENDISHI.

In your issue of August 29 (p. 161) in the very able article on the above the following appears: "There are perhaps many and various reasons for the somewhat rare occurrence of the fruiting of Musas, some of which are doubtless the amount of space required under glass for their accommodation, and the great heat that must be accorded them if the fruiting is to be in any way successful," and further on in the same article is the following sentence: "Heat and a continuously humid atmosphere are the chief enemies, and these are greatly aided by stain. Bottom-heated stoves and pipes beneath the bed and from open grilles, and around the walls a plentiful supply of top heat is secured" &c. In my opinion the above description is not likely to lead to extended cultivation of Bananas, as in most gardens at the present time there is (or seems to be) a tendency to use as little fuel as is consistent with the actual requirements of the place. Having grown and fruited Bananas regularly during the last seven or eight years in the gardens here with a fair amount of success, it may be interesting to some to describe my method. In the spring of 1888 I had a small plant of Musa Cavendish sent here in a 9-inch pot. A more stunted specimen of plant life I have rarely seen, and was told that it was a non-fruited variety, but was requested to keep the plant for certain reasons which need not be here entered into. I examined the plant, and could detect nothing particular about it beyond semi-starvation and bad culture. I had the plant repotted in good fibrous loam, charcoal, sand, and a sprinkling of bone-meal, keeping it rather dry at the roots for a time until signs of growth appeared. As the days lengthened the plant grew away freely and began to assume its true character. I then had a paraffin cask cut in two, one hole being at the bottom for drainage, and transferred the plant from the pot into this tub without disturbing the roots. I placed it in the plant stove where a collection of other plants was growing. Here the Musa flourished and fruited in the autumn. How old the plant was when it came into my hands I do not know. After the fruit was set and swelling on the plant I removed the strongest sucker and had it potted up in order to give the parent plant the benefit of the soil in the tub in order to secure good fruit. The same treatment has been followed every year since, the suckers fruiting in from twelve to fifteen months from the time they are taken off the parent plant.

I had last December in tubs plants, about nine months old, that were used for decoration in the mansion here. These stood three weeks in the house, forming an archway, and no water was afforded them in any way during that time. They are now fine plants fruiting well. Indeed, I believe partial drying and a short rest in winter induce them to fruit in a much smaller state, as plants grown continuously in a warm, moist heat grow to such a size that it is not every house that will hold them. My plants have never exceeded 6 feet in height as yet. I cannot give the exact weight of a cluster of fruit, but they average from 150 to 200 beans on each cluster. Anyone possessing an ordinary plant stove where stove plants are grown, need not be without Bananas. The plants are noble objects them-

selves, the large leaves of a beautiful green being often admired; besides, as already stated, they may be freely used for decorating even where a temperature of 40° cannot be exceeded if kept dry at the roots. By potting up suckers at different times one may have an almost unbroken supply of fruit, as the beans do not ripen at one time, but come on in succession. The difference between a Banana ripened on the plant and one ripened in a case or fruiterer's shop is very great, as anyone who has tasted both can testify. The tubs my plants grow and ripen their fruits in are 16 inches deep and 24 inches wide, painted green, with two handles secured to the sides; in such they can be moved with freedom as required. The soil I use is loam and bone-meal, with some lumps of charcoal to keep it sweet, as the plants growing in such tubs require water very much often than when planted out. I use manure water from the cow sheds, diluted at almost every watering with the plants are growing freely and the clusters of fruit are showing, when I give a sprinkling of artificial manure on the surface, watering it in well. Here the fruit is very much valued and forms a nice addition to the dessert. I find it a good plan to gather the beans separately just as the rind cracks, and then lay them out singly in the fruit room a few hours to cool before sending them to table. As soon as the cluster is formed and the beans begin swelling, I cut away all beyond the last perfectly-formed bean and seal with a hot iron, which I find induces the fruit left to swell better and ripen much quicker; besides, I have never found those small beans swell when left on the clusters. The Musas are rarely ever attacked by any insect pest, and are quite as easily grown as any ordinary stove plant. I am well aware that, given a large house with the plants planted out in a border, they give less trouble and produce larger clusters of fruit than grown as here described, but then such houses are not met with in every garden. During the excessive heat last July my plants grew well without any fire-heat, and seemed to assume a deeper green in the leaves than they usually have done. —DAVID KENF, Stoke Park Gardens.

— Given plenty of Mr. Last's model compost of turf edgings and short manure—what a pity the former are so often wasted!—I would undertake to grow as good dwarf Bananas—and they are really the only ones worth growing—under glass in pots or tubs from 12 inches to 24 inches in diameter as planted out. Sudden checks during the flowering stage, which lasts for a considerable time, stunt the length and limit the size of the flower bunches. With portable plants any such checks are the more easily rendered impossible. Plants in pots and tubs are also easily earthed up, and under such treatment as recommended by "E. J." the stem roots freely into the new material and the fruits are finished to the highest perfection through the fruits and seeds described in those described and illustrated (p. 161 and 162). No doubt the enormous imports of fine Bananas from abroad limit their home culture greatly. But this is a mistake, as very few of the imported Bananas, necessarily for safe transit cut long before they are ripe, are comparable with those gathered at home pip by pip. There is also a special pleasure in growing one's own Bananas and the delicious *Monstera deliciosa*. —D. T. F.

Nectarine Spenser.—A valuable addition to outdoor Nectarines is the variety mentioned, for in addition to the fruits being of large size and deeply coloured, they come into use after Elrugo and other medium season varieties are over, thus helping to considerably prolong the supply of this luscious fruit. With me the tree is a good grower and a free bearer, the fruit always requiring to be well thinned. The fruits assume a golden deep colour, the flesh greenish white and deliciously flavoured. If extra fine fruits are desired, thinning must be done rather severely, and good feeding resorted to, but for table use thinning as ordin-

arily practised will ensure fruits quite large enough for general purposes.—A. W.

Apple Osolin.—This is a particularly bright-looking medium-sized conical-shaped Apple, and very highly flavoured. Formerly I considered this variety a shy bearer, but on removing the tree to another site in the garden I had no further occasion to do so, as it has borne regularly since. It is a valuable Apple for the dessert, its handsome form, its high colour, and the flavour, always commanding admiration, and the flavour is also first-rate. It comes into use about the end of October, but will keep through the succeeding month if required. I have it as a bush tree on the Paradise stock. It is a medium grower, but the tree is very fruitful.—W. S. E.

Red Currant the Cherry.—Where Red Currants are in demand late in the season the above variety stands unrivalled for giving a supply of large fruit. Here it has superseded Ruby Castle, which is also a fine Currant, for some years past, as it bears better and keeps longer in general estimation than that variety. The fruit is very large, bright red in colour, becoming darker the longer it hangs, and the bunch is of fair length. As regards cropping and quality I wish for better, as the bushes are invariably heavily laden, the size of the fruit and weight of crop at once arresting attention. It is not such a good upright grower as Ruby Castle, but it is equally as robust, the great drawback being the tendency the young shoots have of drooping downwards. Notwithstanding this defect, it is one of the most valuable late-hanging Currants we have, and where autumn-growing Raspberries are grown its value cannot be well over-estimated. —S. E. P.

Yellows in Peach trees.—"W. L." gives the best possible advice when he recommends a correspondent to completely lift his tree and replant it in fresh soil for the cure of the yellows. Last autumn I lifted a tree of Lord Napier Nectarine growing on a wall which was affected by this disease, relaying the roots not more than 3 inches deep in fibrous loam and plenty of old mortar rubble. This season the tree has improved generally and the foliage looks quite green and natural. I think, however, that the yellows is sometimes caused by the tree being worked on an unsuitable stock, as I once had a Violetta Hative Nectarine under glass which still remained affected by it after the above treatment had been tried, and which I eventually rooted out. I think that after lifting the tree should not be allowed to fruit for one season.—J. C.

DESTROYING THIRPS.

Quassia extract is by no means a new insecticide, but formerly gardeners had to procure the chips and boil them themselves, yet for all the trouble inseparable from the preparation, the old school, having great faith in its efficacy, used it regularly for their Peach walls, and several gardeners I served under dipped the leaves in the solution when attacked by red spider. At the present day quassia extract can be purchased for a small outlay, and is according to my experience not only the cheapest, but for most things the best and safest insecticide procurable. I have under my charge a Lapageria which covers a considerable area in the curtain court. In hot summers, owing to an insufficiency of fresh air reaching the plants, it becomes the prey of thrips. The pest made its appearance this season, and I determined to try the effect of a good syringing with the extract, following the instructions and applying it at the rate of half a pint to 5 gallons of warm soft water. I laid old useless garden mats over the border to prevent the liquid from soaking it, the mats being afterwards thrown away. Many of the leaves were discoloured from the thrips eating away the tissue, but a fortnight after the application they again resumed their natural hue and are now as green as ever, no second attack having been made. After using it I take care to syringe the plants

the following morning with clear water to dislodge any unsightly sediment. With regard to its use in the fruit garden, I may say that I this year applied it to my Peach trees on open walls for aphis, and later on to red spider, and that in both cases I made a clean sweep of the pest. Black fly on Cherries succumbed to the first application, as did aphis on Plum walls. An old fruit grower wrote me that he was using it for every fruit except Cherries, his fear being that with the latter fruit, the season from the setting to the ripening stage being so very short, the quassia might leave a bitter taste behind. This, however, he had not proved, and as on tasting fruit from a tree of Black Tartarian, which I had syringed with quassia extract directly they were set, I could not detect the least bitterness, I think the idea is a false one. C. C. H.

A new Grape.—I note that at the last meeting of the fruit committee of the Royal Horticultural Society, Mr. Shingler, gardener to Lord Hastings, showed his new variety named Lady Hastings. Last autumn I had the pleasure of both seeing and tasting it at Melton Constable, and I at once predicted a great future for it. It is of fine flavour, colours well, and is in flavour something like the old Muscat Hamburgh. I was glad to read that the committee expressed a wish to see it again later on in order to prove its keeping qualities, which I think will be found to be very good.—N.

Pear Triomphe de Vienne.—A dish of Pears under the above name was exhibited last week at Derby and was awarded the third prize, the first and second prize dishes both being Souvenir du Congrès. The pear de Vienne I had never heard of before, and I am wondering if any readers of THE GARDEN have any knowledge of it. The fruit is in shape and size very much like ordinary specimens of Van Mons Leon Leclerc, the colour also being similar. The Pear appeared to be quite ripe, and if the fruit referred to was not ripened under glass, it is a September ripening kind.—C. C. H.

Pear Beurre de l'Assomption.—I wish I was able to speak as favourably of this Pear as "S. E. W." (p. 201). I have no fault to find in regard to its size, appearance, and hardness of cropping, but as to flavour and keeping qualities of my experience, "the less said the better." It matters not whether the season is wet and cold or warm and sunny, fruit from south-west and east walls, also from an espalier tree, refuses to ripen properly, being mealy and flavourless, and decaying almost immediately it is ripe. I used to send them to my employer in Scotland, gathering them as soon as they would leave the tree, but I was repeatedly told that after a night and a day's journey and two or three days in the store room they were not fit to eat, the centres having gone sleepy. Annoyed at this, I determined to cut the larger horizontal tree back and graft it with another variety. "S. E. W." says that it keeps better with him than Souvenir du Congrès, but with me the latter keeps fully a fortnight longer than Beurre de l'Assomption; indeed, in cool seasons I have shown it at Lincoln as late as the second week in November. "S. E. W." may perhaps think that I have not the true variety, but there is no mistake about this, as the four trees I had came from various firms, and the fruit from each exactly corresponded. Mine is a light, somewhat sandy soil, and the trees grow vigorously if mulched and fed. Perhaps a stronger and more retentive soil accords with the better flavour and longer keeping of "S. E. W.'s" fruit. I have just referred to the list of Pears issued by the largest trade grower in England and find no mention made of Beurre de l'Assomption, this showing clearly that there is not much demand for it.—C. C. H.

Pear Bourre Bosc.—This Pear I have noted in fine condition in several gardens this year, the best fruit I have seen being on a wall at Ickworth. Here it attains a large size, the fruit being long,

of true Pear shape, deep brown now but changing with age to a russet yellow. The flesh when ripe is luscious and aromatic, and its season is the end of October. It does best as a wall or espalier tree, and repays a southern aspect, as this brings the fruit into proper season and it is better in flavour from such an aspect. It is a free-bearing kind needing thinning in most cases if fine fruit is required.—R.

TREES AND SHRUBS.

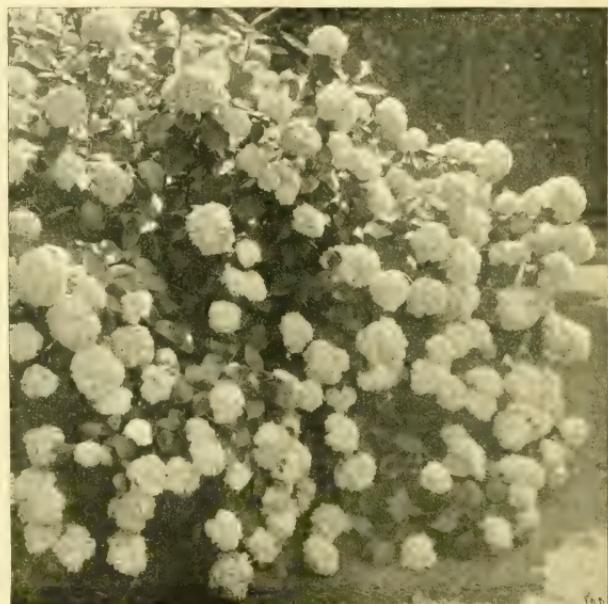
HYDRANGEAS IN CORNWALL.

In Cornwall and the west of England generally the Hydrangea grows to a large size, the massive heads of flowers contrasting strikingly

being lovely and varied in colour, delicate porcelain-blue and purple.

CULTURE AND PROPAGATION OF TAMARISKS.

Or the genus Tamarix twenty species are known, but of these only three or four are cultivated in France, those which are most commonly grown being the Indian Tamarisk (*Tamarix indica*, Wild.), the German Tamarisk (*T. germanica*, L.), and the Narbonne Tamarisk (*T. gallica*, L.), the last named being indigenous in the southern districts of France. In my opinion nothing is more picturesque than these bushes with their slender branches, which are some yards in length, and are produced



Hydrangea Hortensia at Burncoose, Perranwell, Cornwall. From a photograph sent by Mrs. Rogers.

with the many shades of colour with which they are associated. It is thought that the beautiful blue colour so often seen in these flowers is due to something in the soil, but it will be found that shade has more to do with the blue colour of the flowers than anything in the soil. If cuttings are taken from a plant in the shade which bears blue flowers, it will be found that if these are planted in an open position the colour will revert to the usual pink shade. The plant we figure to-day was grown at Burncoose, Perranwell, Cornwall, and on August 17 there were counted on it 725 flowers. It has been in this position for thirty-five years, and, beyond a little top dressing of leaf mould, has had little attention. Some flowers were sent at the same time as the photograph from which the illustration was prepared, these

annual shoots, which grow very rapidly. Everyone has seen those elegant bushes with narrow, imbricated, pointed leaves pressed close against the stem, those bushes which, at first sight, have some resemblance to some kinds of Heaths, Cypresses, and several other evergreen trees; everyone has seen the long branches of which I have just spoken 2 or 3 yards in height and scarcely as thick as the little finger, curving gracefully during the summer under the weight of a very long panicle of more or less rosy coloured flowers, whose congregated masses form a sheaf of bloom with most imposing effect.

The NARBONNE TAMARIX (*T. gallica*, L.) grows to a height of 3 or 4 yards or even of 5 or 6 yards when planted in cool, light, sandy soil. Its flowers are whitish or slightly purplish, and form

panicles which are not quite so densely flowered as those of the other kinds mentioned.

THE GERMAN TAMARISK (*T. germanica*, L.) does not grow so high as the preceding species; its branches are straighter, it has a more glaucous tint, its flowers are somewhat more bluish in colour, or of a pale rose colour, and its foliage is more abundant. This species is so different from all the others that it may possibly at some time be separated from them to form a new genus under the name of *Myricaria*.

THE INDIAN TAMARISK (*T. indica*, Willd.) has small, but handsome bright red flowers. It was formerly cultivated in hot-houses, but having been gradually injured to exist out of doors, it now endures our winters pretty well when treated as I shall describe presently.

The three species here mentioned are often considered to be identical, or at least as varieties only which differ from one another so little that it is not easy to distinguish them unless they are examined side by side. In practice, the horticulturist takes the same view of them; he makes no distinction between the species, and grows them all indiscriminately in the same manner, and in so doing I think he is quite right. The Tamarisks delight in cool, moist, and somewhat shaded positions. When planted by streams they are quite remarkable for the pliancy of their branches, the dark tint of their foliage, and the pure shades of colour in their flowers. It must not, however, be inferred that a position of this kind is the only one that is suitable for these splendid shrubs. They grow quite as well in light soil, for I have seen on a knoll of light soil, on which was planted something like a maze or labyrinth, the elevation exposing it to all changes of weather—frost in winter, drought in summer—the finest Tamarisks I have ever met with. Whether one looked at the base of the knoll, half-way up, or at the top, and in every direction of the compass, the Tamarisks were everywhere charming, everywhere developed a luxuriant growth, and covered themselves with the most enchanting display of flowers, the flesh-coloured tint of which was strikingly relieved by the sombre hue of the turf slopes and the rigid foliage of the Pine-trees which were planted here and there in the labyrinth. It is, therefore, a mistake for anyone to deprive himself of the pleasure of enjoying the fine effects of the elegant Indian Tamarisk and its European congeners, because he imagines that the soil and positions at his disposal are not in every respect suitable for their cultivation. No doubt the conditions mentioned above are most desirable, but when it is found impossible to combine them or to create them, dig a hole in soil of any kind, and, with the soil thrown out of this, mix well a compost of potting-soil and heat-soil that have been already used, vegetable debris, fine sand and other like materials, and with this fill up the hole, which should have been made of large dimensions rather than too small. If the natural soil of the position is too stiff and retentive, dig the hole somewhat deeper, in order to place in the bottom of it a stratum of turf, sand, gravel, and similar materials for drainage; if the soil is naturally too dry, hot, or limy, these defects should be corrected by adding farmyard or artificial manures, pulverised dried cleanings of ditches and ponds, friable or argillaceous soil. In the hole thus prepared plant your Tamarisk, which will not require any further attention beyond what is generally bestowed upon any kind of newly-planted tree, such as watering and shading in summer, a stake to support it in windy weather, and, lastly, some straw protection in winter, when severe frost impends. The Tamarisk grows

very rapidly, as I have already said; its upper extremities are still herbaceous when the first frost occurs and then they inevitably perish; in spring (March and April) however, all the branches should be cut back to within a few inches of their point of junction with the stem. Soon after this, the sap, commencing to flow, starts into existence a profusion of young shoots whose marvellous growth produces the results spoken of above. The Tamarisk should be treated in this manner every year, much in the same way as Osiers are cut, but with this difference that instead of being always cut in the same place so as to form a kind of pollard tree, each successive cutting should be made some inches higher up than the preceding one; from this results a greater profusion of branchlets and flowers. When treated in this manner it is very rare to see any of the Tamarisks, even the Indian species, perish during the winter, and in weather of abnormal severity, some straw matting, wrapped round the stem and the base of the branches will ward off all danger. The details of

PROPAGATION

are simple, as all that is necessary is to take a cutting (10 inches to 15 inches long) from the end of a branch and put it in the ground in February or later. This will strike root very readily. The depth to which cuttings of this shrub should be inserted in the soil has long been a vexed question, but good sense and experience unite in showing that cuttings of the Tamarisk, as well as cuttings of all deciduous trees and shrubs, should be inserted in the soil to such a depth as will establish a proper balance between the part of the cutting which is overground and the part which is in the soil. This balance, which is required by physiological laws too long to mention here, will be attained by inserting in the soil about two-thirds of the length of any cutting whose total length ranges from 8 inches to 16 inches.

The small twigs, about as thick as a knitting-needle, are sometimes utilised in spring, being made into cuttings about 4 inches long, which are struck on hotbeds and in small pots under bell-glasses. These do not require to be inserted in the soil for two-thirds of their length, as the bell-glass prevents any evaporation of their sap, and at least two-thirds of their length should be left overground. These little cuttings very soon send out shoots and, by summer, make nice little plants, which can be repotted if necessary, and sent out (by nurserymen) all the year round.—HENRI THEULIE FILS, in *Le Jardin*.

The Spindle Tree.—In your interesting book on the wild garden you ask for suggestions. One suggestion I would make is, that rather more stress might be laid on the merits of the Spindle tree. You are familiar with North Oxfordshire, and may remember how beautiful in September is the coral-red fruit of the Spindle trees, so common there in the hedgerows. I fear that those I have planted in my garden will not fruit so freely as they do in Oxfordshire.—F. A. STURGE, Wrexham.

A Golden Oak.—In reference to the article under the above heading (page 183) I may point out that there is a well-known and very desirable golden-leaved variety of the English Oak known as Concordia. Its origin seems to be unknown, but as this particular variety was awarded a first class certificate as long ago as July, 1868, it must have been cultivated now for many years. The foliage of this variety is, on first expansion of a rather pale yellow, but it quickly becomes golden, which tint is considerably intensified by full exposure to the summer's sun. It is necessary, as with all the distinct forms, to increase this particular variety by grafting on to the common

Oak, so that its rate of progress, especially during its earlier stages, is slow, consequently large specimens are rarely seen. It is, I believe, a very great favourite in America.—T.

ORCHIDS.

NOTES ON ORCHIDS.

FORTUNATELY, the past season, with its long periods of brilliant sunshine, has been all that could reasonably be desired by Orchid growers, and seldom have the growths been more forward and satisfactory in September than they are at present. No difficulty should be found in most cases in getting the growths well ripened, and should we be favoured with bright, open weather during late autumn, care will be necessary to prevent the pseudo-bulbs kinds growing out of season. As I have before noted in this connection, the growths least likely to push unseasonably are those that are well ripened now, and for the simple reason that they will later on require less nursing and less root moisture to keep them from shrivelling. *Angrecum eburneum*, the nearly-related *A. virens* and *A. sesquipedalis* have positively revelled in the brisk high temperature and all have made capital growths. The two former have already pushed their flower-spikes to nearly their full length, and, judging by present appearances, will be earlier in flower than usual. None of these plants need much drying at any season, and in this they differ somewhat from some *Aerides* and one or two other distichous-leaved kinds. Many of these are already steadily down, and do not take so much water as they did a month back. In this, however, the plants vary considerably, for a large piece of *Aerides Fieldingi* that has made but few roots up to the present is now rooting very freely both in the compost and higher up the stems. Close attention then to the wants of individual plants and species will be found more satisfactory than a collective mode of treatment. The more sensitive *Phalaenopsis* are still in growth, but to the initiated there are unmistakable signs of the season in the appearance of the foliage. The green-leaved species are losing the fresh appearance characteristic of immature foliage, and taking on a kind of grey green; the variegated kinds, as *P. Schilleriana*, becoming deeper in colour. When this is noticed do everything possible to encourage the perfect maturation of the leaves, allowing as much sun as possible and keeping up a regular circulation of air. Though I know I am treading on dangerous ground, a little less atmospheric moisture tends also to the end in view. Deciduous *Calanthes*, if they have been gradually injured to light, will not after this need any shading. The roots are still active, and will be until the foliage begins to turn colour, when less root moisture will be needed. Keep the plants well apart, and as the bloom-spikes show on the sides of the pseudo-bulbs be very careful that no cold water comes into contact with them, or possibly many will turn black and damp off. Manure water will not be needed after the pseudo-bulbs have attained full size; in fact, it will do more harm than good. By the time the first blossoms on such as *C. Veitchii* show colour, most of the foliage will have fallen, the roots will in many cases have ceased to carry sustenance to the bulbs, and therefore water may be entirely withheld. There is not much to add to previous instructions respecting Dendrobiums, for it is only necessary to watch them as they finish up and remove them to drier

quarters when complete, to hasten by all means any that are behindhand, and to see that none of them suffer from want of water until the pseudo-bulbs are fully made up. It is quite time, by the way, that all plants placed outside, as advised in previous notes, are removed under glass; cold nights and pelting rains being now too much for even the hardiest species of tropical Orchids. *D. formosum* is now very finely in flower, and, tricky as the plant is to grow, it is really an indispensable species, the lovely pure white blossoms, with the dense orange markings in the throat, calling forth praise from the least enthusiastic of Orchid-lovers. The finest flowers are usually those that come on the apex of the fast-maturing stems; and this, too, seems to me the most natural way for the plant to bloom. Let the growths now maturing have the benefit of every ray of sunshine and keep the temperature well up. After the flowers are past keep the plants dormant if possible; they will be all the better if new growth does not commence until spring, as then, with the natural rise in temperature, progress will be rapid and unchecked instead of sluggish, as it always must be during the winter months. Seldom has an Orchid been more aptly named than *D. phalaenopsis*, for the magnificent racemes of bloom are hardly excelled in grace and elegant poise by the very best of the Moth Orchids.

Cypripediums are in flower in considerable force; indeed, it would be difficult to name a month in the year when these beautiful plants are not well represented. So varied, interesting, and easy of culture are they, that it is no wonder they have become so popular, and the fact of every really good novelty attracting so much attention is quite sufficient proof that their popularity is not waning, but rather the reverse. If there is one point that can be urged more strongly than any other against Orchids as decorative plants, it is the fact that in the majority of instances the foliage is not of sufficient beauty to show up the flowers. But with *Cypripediums* this objection does not hold good; for a really well-cultivated specimen is a beautiful object even when out of bloom, but when to the attraction of the foliage a fair complement of flower is added it is superb, and wants no garnishing of Ferns or other fine-foliated plants to make it complete. Nor are they fleeting beauties, for, as a rule, they are the most lasting of Orchids, keeping fresh for many weeks without in the least endangering the health of the plants. *Thunias*, as a rule, have done flowering by now, the foliage in many cases being nearly all off, necessitating their being kept quite dry at the root, and if room is needed they may be shaken out of their pots, separately labelled, and stored in any dry, warm house where the temperature never goes below about 55° or 60°, the latter figure being the safer. Any that are still green may have a little water, but the sooner they can be induced to go to rest now the stronger they will start in spring.

In the Cattleya house the pretty little blossoms of various *Burlingtonias* have been quite a feature, the chaste looking *B. candida* having a charming appearance, while the blossoms of *B. fragrans* are very delicately scented. I have often wondered why these are not more generally appreciated and more carefully grown, for a nicely flowered specimen of either of the kinds named or the more brightly coloured *B. decora* are really attractive. They certainly require care, but cannot be called difficult of cultivation, the most frequent cause of failure being that the pseudo-bulbs are allowed to push too far away from the compost, and in conse-

quence soon become too weak to flower freely. With *B. decora* this is much more marked than the others named, because the growths occur further apart upon the rhizome. Plants of *Oncidium Cavendishianum* imported last year made splendid roots and got hold of the pots well. This season the growth on these plants is remarkably strong and vigorous, and the stout, healthy flower-spikes, already 18 inches high, give promise of a bountiful bloom. There are several fine Cattleyas in bloom, but most of these have been recently noted, so it is only necessary to add that with those plants that flower upon the apex of growth it is necessary to thoroughly harden and finish the growth now and keep it dormant by a buoyant atmosphere, without chilling draughts. *W. C. gigas*, *C. Hardiana*, *C. Dowiana* and *aurea* closely, for they are old offenders in starting out of season, and even *C. Gaskelliana* and *C. Eldorado* sometimes give trouble. The autumn-blooming *C. labiatissima* is coming on apace and has had a fine season, while *C. Bowringiana* and several others are not far behind. It is not everywhere that a house can be set apart for Mexican and Guatemalan plants requiring more heat than the quite cool section, yet not so much as Cattleyas and Brazilian plants generally. Where such an one exists it should at this time be very freely ventilated, and shading must by this time be almost entirely dispensed with. None of the *Laelias*, such as *L. majalis*, *L. autumnalis*, *L. albida*, or *L. anceps*, will require any, but possibly there may be a few plants of *Odontoglossum grande* or some related kind, *O. bicolor*, or some of the *Trichopilias* with late growths that may want a little shading during the middle of the day. Still, even these are now best with as little as possible, and should be arranged together so that some light shading material can be thrown over them without lowering the blinds and giving shade to other plants that are much better without it. Where these and similar plants have to persevere with the Cattleyas, it is a good plan to keep them as near the door as possible and to allow all the air convenient, even if this should necessitate removing to another structure a few plants that require more heat. All very small plants in baskets or pans suspended from the roof should be frequently looked over and arranged in order of finishing to facilitate watering. It is now time to clear out the cool house and look over the compost. A good stock of clean pots and compost may be ready; beating up the peat and picking over the Sphagnum Moss, making work for labourers or boys during showery weather when outside work has to be at a standstill. When this is seen to beforehand, the work of repotting can be much more expeditiously done. H. R.

Oncidium altissimum. — As the specific name implies, the spikes of this Oncidium are very tall, and though perhaps rather too stiff are yet pretty, and the side sprays are extremely useful for cutting. It is not, I think, very much grown, and in habit is something in the way of the better-known *O. sphacelatum*. The flowers are individually small, the sepals, petals, and lip clear bright yellow, with a few dots of brown. *O. altissimum* likes a full Cattleya temperature, plenty of air and light, and a moist atmosphere while growing. The winter treatment must be cooler and drier, or but few flower-spikes will be produced. It is a very old kind, a native of the West Indies, and was introduced upwards of a century ago.—R.

Oncidium carthagenense. — This is a pretty plant with fine large spotted leaves, from the base of which springs the many-flowered scape. The individual flowers are small, yellowish white,

spotted on the sepals and petals with brownish crimson. It is a free-growing plant from the West Indies, and likes a fairly large pot and rough, open compost. It is not unusual when grown well for this species to throw out spikes 6 feet in length, and as they are closely set with side branches almost their entire length, it is very light and elegant in appearance and a change from the yellow-flowered kinds. It does best in a light, sunny position in the Cattleya house.

Oncidium excavatum. — This is a robust growing, useful and easily cultivated Orchid, a native of Peru. The large many-flowered scapes spring from the base of the oblong pseudo-bulbs between the sheathing leaves. Each blossom is about $\frac{1}{2}$ inches across, the colour a deep golden yellow, spotted or barred with red, making it one of the brightest of the long branching kinds; indeed, it is one of the best cool house Orchids that flower at this season. The plant may be grown with the Odontoglossums, and should be repotted if necessary in early spring. The pots are large, but they are freely provided with the plants are healthy and readily take hold of a rough, open compost. The pots may be fairly large and must be efficiently drained—a third of their depth at least, covering the crocks with the rougher parts of Sphagnum Moss. Good peat fibre and Sphagnum in equal proportions, with abundance of rough charcoal or crocks, will be a suitable compost, and in planting elevate the pseudo-bulbs a little. If in fairly good condition a margin of about a couple of inches around the bulbs will not be too much. Give the plants liberal supplies of water as long as growth is active, and light dews over the foliage during hot weather help to keep them clean and are distasteful to insects. In winter give sufficient water to always prevent shrivelling.

CYPRIPEDIUM ASHBURTONIE.

ORIGINALLY raised in the gardens at Melchite Court, Romsey, by Mr. Cross, when gardener to Lady Ashburton, this fine hybrid flowered in 1871 for the first time. Since then it has been duplicated again and again, the same species, viz., *C. insigne* and *C. barbatum*, in one variety or another, having been used as parents. The result is, as may be expected, a very mixed progeny; some fine named varieties occurring with others of doubtful merit. One good point will, however, be noted with these plants. *Pinguicula* are much finer growing and easily-cultivated species, they are vigorous, healthy and free-flowering plants, and on this account should find a place even if the variety does not come up to a very high standard of merit, for one and all are worth growing. The leaves of *C. Ashburtonie* are longer than those of *C. barbatum* and not quite so distinctly or brightly variegated. The flowers have a broad dorsal sepal, pale green with a white apex, and lined with brown and purple. The petals are brownish with veins of purple, and the pouch is light yellow with a purple suffusion. The growth is freest in a shady part of the Cattleya house, but it is not a fastidious plant, and will do well in an ordinary plant stove, viney or warm greenhouse. The principal point is to keep up a nice moist atmosphere about the plants and not to syringe the foliage, or only very lightly and occasionally. The water used in many cases in Orchid houses is hard and contains lime in solution. This when sprinkled over the foliage leaves a white deposit, very unsightly and difficult of removal. Lime, however, in small quantities is not injurious to the roots of many Cypripediums, the bell-shaped section, as an instance, being often found growing on limestone rocks, and many cultivars use it in the potting compost. For a moderate equal mixture of peat, Moss and loam fibres will do well, plenty of rough charcoal and crocks being introduced as the potting proceeds. The pots may be fairly large, and in potting spread the roots out and work the particles of compost well between them, providing good drainage and replacing the plants in their growing quarters without delay.

If roots are plentiful give the plants a good soaking of tepid water at once, for it is very injurious to these to become dry, even after rotting; but where they are scarce more care is necessary. One of the finest of all the varieties is C. A. expansum, which was, I believe, flowered from the original cross; but several fine ones have been raised from C. barbatus and C. insignis. Mauls. Messrs. Heath and Son, of Cheltenham, Sander and Co., of St. Albans, and most of the principal nurseries make hybrid raising a specialty have sent out varieties of this plant. The latter firm are responsible for C. A. Laucheanum, a fine dark variety similar in many respects to vars. majus and superbum, the latter having been raised by Messrs. B. S. Williams and Son, of Holloway.

R.

ORCHIDS AT THE BARONS, TWICKENHAM.

THERE are few finer collections of Orchids in the metropolitan district than that Mr. Little has at the above address. Some of the forms of Cattleya Mendeli, such as C. M. Princess May, C. M. Littleiana, C. M. gigantea, are enormous specimens as well as almost unique in variety. The autumn-flowering varieties of Cattleya labiata are fast pushing up their flowers, and, judging by the remarkable strength of the recently made growths, they cannot fail to give a good display. In the same house I also noted some grand specimen plants of the lovely Cattleya Bowringiana, some with from eight to ten new growths which were each nearly 3 feet long. On the front stage of the house was a large batch of imported Cattleya gigas breaking strongly and rooting freely. Adjoining these was a fine lot of Odontoglossum citrosum, looking healthy and making fine growths. Represented by nearly a hundred plants was one of the finest collections of Lepto-Cattleya elegans to be found in this country, the majority of these being very large specimens and the varieties numerous. Most of them had passed out of flower, but those I saw with the flowers expanded were of the L. C. e. Turneri section. Adjoining these were upwards of a hundred plants of Catleya Dowiana aurea, some few of them in flower and others in sheath. Suspended from the roof at the back of these were some strong plants of Phalaenopsis growing and rooting freely. At the other end of the house, in a position less shaded, was a good collection of Dendrobiums. The majority of these just finishing up their growths left little to be desired. Opposite these on the front stage was a fine lot of Vanda teres and V. Hookerii which had flowered and were growing freely. Adjoining these were the Cypridiums, represented by finely grown plants in big specimens of most of the leading varieties. Prominent amongst those in flower were C. Veitchii, C. vexillarium, C. cananthum superbum, C. marmorophyllum, C. radiosum and C. Stonei, all represented by the best types I particularly noticed amongst those not in flower some fine specimen plants of C. Sanderianum. This is generally found a difficult plant to do, but here it grows as freely as any of the other varieties. There were also some hundreds of seedling Cypridiums, several of them showing flower for the first time. In another range were numerous specimen Cymbidiuns, Odontoglossums, a large batch of Lycaea Skinneri, and various other Orchids.

STELIS.

were mixed with the Sphagnum for potting, the plants would be longer lived. Loam does not sour so quickly as peat, even of the best quality, and owing to its more substantial nature the plants in it make a strong and vigorous growth. Keep it open by the addition of plenty of hard charcoal, charcoal or crocks, and then the plants will take plenty of water and thrive accordingly. They can hardly have too much water provided the compost runs dry quickly afterwards, and even in winter, owing to their evergreen character, a fairly good supply is needed. A position should be chosen for H. violacea not too far from the glass, but the growth must be very carefully shaded during the summer months, the leaves being looked over frequently for scale, which frequently attacks them.—R.

Eulophia guineensis.—This is recently noted in bloom, and although not so showy as many Orchids, yet it is interesting and pretty. The pseudo-bulbs are roundish and bear each a couple of green arching leaves, and from the base of the bulb the flower spike issued and carries about a dozen flowers, very pale pink on the sepals and petals, the lip white, striped with red. It is a plant of easy culture in a warm house, requiring a sound and substantial compost, the principal ingredients being loam, peat-fibre or leaf soil and plenty of rough crocks and charcoal. It requires abundance of water while growing, and the pots must on this account be well drained. It is a native of Guinea, about the neighbourhood of Sierra Leone, and was introduced in 1822.—H. R.

Miltonia cuneata.—This species is somewhat erratic in its time of flowering and is variable, a good form being very effective. It grows strongly and pushes up spikes a foot or more in length, the flowers in the typical form having brown sepals and petals tipped with yellow, the lip white. The colour of the foliage and bulb is deeper green than in most other Miltonias. It likes a good light position in the Cattleya house, and should be grown in well-drained pots with a rather thin compost of peat fibre and Sphagnum Moss; plenty of water must be given while growing. It is a native of Brazil, and was introduced in 1843.

FRUIT AND VEGETABLE CROPS.

WALNUTS.

Tan-y-bwlch, Merioneth.—Apples are a very uneven crop, many of the trees almost breaking down with the weight of fruit, which in many cases is in bunches, the fruit so wedged together as to be unable to swell uniformly to the usual size. However, having arrived at a useable size, I utilize many for cooking, thus affording those remaining a better chance of maturing, and the trees an opportunity of recuperating some of their lost strength. Other varieties have dropped much of their crop prematurely, undoubtedly owing to the long drought, and some have scarcely a fruit on at all. Pears are much below the average both on walls and in the open, but trees and fruit clean throughout. Plums gave early promise of a very heavy crop, but owing to an early and severe attack of blight, with which I was unable to cope successfully, this promise has not been fulfilled, for the crop is very light, excepting Victoria, Czar, and Desnoe, which continue to bear crops, though much great limbs are split down with the weight. gooseberries. currants, and raspberries have been without exception a very heavy crop, free from aphid and other pests and of splendid quality. Strawberries, excepting Sir Charles Napier and Loxford Hall Seedling—which suffered more from heat and drought than any other varieties grown here—far exceeded my expectations, for crop turned out to be heavy and clean and of superb quality. The season also has been an exceptionally heavy one for Strawberries, considering our light soil and the intense heat prevailing. I commenced gathering on May 26 with Pauline of three-year-old beds, followed closely by Sharpless Seedling, then a rush of

La Grossé Sucrée, Maréchal McMahon, Auguste Nicaise, Commandeur, and Waterloo, the latest, Electron and Loxford Hall, carrying on the supply to the end of July. The first named (Pauline) is not so generally grown for a first early as its merits entitle it. The fruit is certainly of a peculiar shape, but that quality it is unsurpassed, and it is also a fairly heavy cropper. I think my custom of mulching Strawberries early and heavily with wood Moss proves of immense benefit in conserving moisture in such a season as this, especially on hot, dry soils such as this. As to the so-called Japanese Wineberry, I am still unable to decide whether its utility is greater as a fruit producer, or its beauty as an ornamental object; it certainly has high claims to both. It is however cropping heavily, but whether its fruit with its peculiar—but pleasant—acidity will become popular time alone will show. Walnuts heavy crops. Filberts light.

Early in the year Brasicas were plentiful. Spring Cabbage (Ellam's) turned in exceptionally early, and late Broccoli during April and May came on in abundance. Model is the variety mainly relied on here for that season, but on trying Dickson's Late May for the first time I was very pleased with it, and shall again grow it as a companion to Model, and to test its ability to withstand a harder winter than the past. Ere these were over nice little Cauliflowers were turning in. These have continued very good and plentiful throughout the summer, and the late ones appear promising. Magnum Bonum is an acquisition to the early section. Onions suffered somewhat from the blight, but are a fair crop. Beet, Carrots, and Turnips are not large, but of good quality. For the last, frequent sowings are the rule. Lettuces, not withstand frequent deluging with water, were unable to make much headway during the tropical heat, but since the advent of a little cooler weather they have done well. Globe Artichokes have quite beaten the record for earliness, quality, and continuous bearing; practically they kept growing all the winter, throwing up strong heads exceptionally early—a marked contrast to last year. Potatoes a splendid crop, even in size and superb in quality. I grow only earlies and second earlies, so that all are now lifted, and regret to say quite half the crop is diseased. Broad Beans have not turned out quite so well as usual and crop quickly over, while French Beans have done and are doing well, producing fine pods, and very prolific. The climbing French Beans become greater favourites here annually, for they crop enormously. The hot season suited the Butter Beans (Mont d'Or). The rows are a pretty sight, each pole clustered with pale golden pods. Since the great heat has passed, runner Beans are growing space and producing fine beans in large clusters, all setting well. I regret to say that amidst the general abundance of vegetables Peas are partly a failure. Early varieties have done very well, but midseason ones have failed to a far greater extent than I have ever known; in fact, one large quarter containing five sowings at intervals and consisting of Evolution, Strategem, Alderman, Main crop, Magnificent, Sharp's Invincible, Triumph, Sutton's Matchless and Perfection are practically a total failure, all being attacked with rust when only a few inches above ground; eventually they threw off their easily growths at the ground line, which carry a light crop. Perhaps the intense heat is partly accountable for this failure. They had above their share of water, and yet made no headway, while those on another quarter of lighter soil and on a steep slope did better, mostly Criterion and Evolution; but the latter sowing on this became fearfully mildewed, so that at present the supply of this important crop is a very meagre one, and tomits and sparrows are most destructive. I have hopes of better luck with the latest sowing, for the plants are growing strongly, branching and sturdy. They include Gladiator, Autocrat, Michaelmas, Omega, and Sturdy. Happily, I have not tried many new kinds this year, those enumerated above usually giving satisfaction in cropping and

quality. Criterion and Autocrat alone span a long season, and are not excelled in productiveness or flavour. Pears improve on further acquaintance, more of it being grown here every year. Grads I am disappointed with. It is not in character with the description given of it, but I will give it another trial. Michalmas (Carter's), noted above, I am very favourably impressed with, as it seems to favour Autocrat.—J. ROBERTS.

Glanfona, Taibach.—The fruit crops here and in the neighbourhood are good. Apples are good. Pears fairly good. Peaches and Nectarines indoors very fine and well coloured, flavour excellent, and the outdoor varieties abundant, well coloured but not up to the usual size. This may be accounted for by the long-continued drought. Trees are clean and free from spider. Plums and Cherries on walls are good, but lack usual size; trees are healthy and clean. Gooseberries and Currants abundant. Strawberries an excellent crop, nice in size and well flavoured.—H.V. MORRIS.

Bodnant Hall.—All kinds of small fruit have been good and plentiful in this district. Strawberries especially so. Apricots and Plums are a fair crop. Morello Cherries heavy, but Damsons, which are not extensively grown about here, are under average. Apples showed an enormous amount of bloom, but are only a moderate crop, fruit clean and good. Pears promising. Walnuts plentiful.

The drought in April and May has seriously checked the development of vegetable crops, particularly early Potatoes and Cauliflowers. First early Peas podded well (Chelsea Gem is very early and most prolific). Main-crop Peas are all attacked with mildew and severely crippled. Root crops in general are all suffering from want of moisture.—J. SAUNDERS.

IRELAND.

Belvedere House, Mullingar.—The fruit crops in this neighbourhood are above the average, especially Peaches, Pears, Cherries and Apples. Plums under the average. Strawberries and Black Currants are variable, in some places very poor, in others over the average. Raspberries fine, especially Baumforth's Seedling. Red Currants and Gooseberries are very good.

Considering the very dry season, vegetables have done and are doing well. Peas required mulching and plenty of water. I find William I. still one of the best for early use, with Duke of Albany, Magnificent, Laxton's Supreme and Ne Plus Ultra to follow, all of which do well here. The Potato crop promises to be a good one; early ones, owing to the dry weather, are rather smaller than usual, but of good quality, and the late ones I never saw more promising with no signs of disease.—J. DAVIES.

Vice-regal Gardens, Dublin.—Fruit crops have turned out much lighter than was expected from the fine appearance of bloom and the mildness of the season. Peaches are a thin crop, other small fruit a fair average. Strawberries and Raspberries, which promised an unusually large crop, failed to ripen more than about one half; the late favourable change, however, has already done much to repair the harm done by the drought. Late crops are now in full and vigorous way.

Early crops of vegetables in this neighbourhood have suffered severely from the long protracted dry weather extending from the middle of April to the second week in July. Peas have ripened off at half their normal height; Beans thin stems, and Cauliflowers have buttoned off in large quantities. The Potato crop round this neighbourhood has a vigorous, healthy appearance and no signs of disease. The yield will not be heavy, but the quality is very good.—G. SMITH.

Fota, Cork.—Like most other parts of the British Isles, the rainfall for spring and summer has been much below the average, with the result that Strawberries, Gooseberries, Currants, and Raspberries were small, especially in light, thin soils, and the season a very short one. Some kinds of Strawberries stood the drought better than

others. The old Keens' Seedling stood best here and gave far the best crop. Gunton Park and Lord Suffield did not ripen a berry, and the local favourite, McMahon, suffered much. Cherries and Plums under average, but quality good. Peaches a fine crop and highly coloured, but needed much water. Pears on pyramid never so good, a fine crop of clear fruit. Williams, Beurré de l'Assomption, very fine; Beurré Hardy, a heavy crop, but fruit rather small. Beurré Bacheller, Beurré Diel, Aston Town, Madame Trevey, Conseiller de la Cour, Louise Bonne of Jersey, have the heaviest crop; other well-known kinds a fair crop. Apples hardly an average, some elements highly coloured in most cases, but not quite so large as usual. Cox's Orange Pippin, King of Pippins, Domino, Stone's Apple, Worcester Pearmain, Grenadier, The Queen, and a few others have a full crop. There are also a few trees without some fruit.

Vegetable crops are not so good as usual. Peas, French Beans, and Scarlet Runners suffered very much. Peas Chelsea Gem as a dwarf is first-rate. After gathering one crop I gave the rows a good soaking of water, with the result that the second crop was nearly as good as the first. For our main crop of tall Peas I rely upon Ne Plus Ultra, thinking it still the best Pea. Veitch's Perfection does well. I find no Lettuce stand the drought so well as All the Year Round. Several other varieties of Cabbage Lettuce failed to heart at all. Ellian's Early Cabbage was first-rate and not a bolter amongst them. Early Potatoes of good quality and a full crop. I find it is hard to beat Myatt's Ashleaf as a main early crop. Turnips and Onions small. Carrots very good. Asparagus and Seakale have not suffered from the drought as much as might have been expected. Generally the vegetable crop is far below the average in quantity and quality.—W. OSBORNE.

Under-Secretary's Lodge, Dublin.—All fruit crops are very good this season. Applesuchs as Lord Suffield, Warner's King, Lane's Prince Albert, Bramley's Seedling, Cox's Orange Pippin, Devonshire Quarrel, Hoary Morning, Duchess of Oldenburg, and Peacock's Nonpareil, all are excellent. Pears here are not so good as last year, neither are Morello Cherries on walls. Pears are a fair crop, but under average. Gooseberries and small fruit abundant.

The dry weather has interfered with vegetables greatly, consequently they are scarce. Pea Duke of Albany bore a very fine crop; it is by a long way the best Pea with me. I got 5s. a basket in the market, when other people were only receiving 2s. 6d. for the same. It is a magnificent Pea for market purposes and a great bearer, with twelve or thirteen Peas in every pod. Veitch's Perfection is also a very fair Pea. Ne Plus Ultra is the best late variety. I generally grow William Hurst for first crop and find it very good.—WM. BRADSHAW.

Mount Talbot, Co. Roscommon.—The fruit here and in this part of Ireland is extra good this year; in fact there has not been such an abundant crop for some years back. Wall trees as well as standards have a heavy crop of good sized fruit. Peaches do very well here out of doors on a south wall, but the heavy rains here in the month of March when in full bloom prevented them setting well on very exposed trees. Pears are very fine this year on wall trees and on standards. Plums of all sorts are good and very plentiful. Apples are an extra heavy crop here and in this neighbourhood. Gooseberries, Raspberries, and Currants were very abundant. Strawberries that were well mulched during the winter bore a splendid crop, but on those that were not attended to in the way during winter the crop was small and light owing to the long drought in May. Vicomtesse Hébert de Thury, Noble and President did well.

The soil here is of a heavy nature, but all crops have done remarkably well notwithstanding the prolonged drought, which took most on early Peas. The sorts I mostly grow for early use are First Crop, Sangster's No. 1 Improved, and Laxton's William I. Exonian is a first early

wrinkled marrow, a great bearer, of fine flavour, and keeps long fit for use. For main crop I grow Champion of England, Laxton's Supreme, and Telegraph. Late sorts I have found very satisfactory for years past are Ne Plus Ultra, Veitch's Perfection, and Hair's Mammoth.—J. SIMPSON.

Down Hill Gardens, Co. Derry.—Fruit generally is a fair crop. Currents, Gooseberries and Raspberries are very good, also Strawberries, but the showery weather we have had interfered with the ripening of the last. Plums are nearly a failure, both here and in the neighbourhood, on account of the cold winds when in bloom. The same may be said of Pears, except on south walls and sheltered corners. There was an abundance of bloom, but the cutting north-west winds which we get here off the Atlantic sweep everything before them. Apples are a good crop here and several other places round about where last year the bloom was lost by the action of the winds destroying the blossoms. In most cases they are only a moderate crop. Cherries also are scarcely average, Morellos especially.

Pears have been good, but are showing mildew, especially on light soils. Cauliflower autumn-sown was good, but early spring-sown suffered a good deal from the dry weather in May. Onions are very good; the maggots made but little appearance, but Carrots I never saw go off so badly. Parsnips also are a little affected. Early Potatoes have been very good, and very heavy generally in the north of Ireland. The late ones are looking very well in this neighbourhood, but reports have reached me that the disease has made its appearance a few miles inland.—H. CARTER.

Hillsborough.—The fruit crops in these gardens are good, except Pears and Plums on walls, which are a failure.

The early, midseason and late Peas which I find do best here are Lightning, Filibasket, Utility, Prodigy, Autocrat and Ne Plus Ultra. No other Peas give us so good a return, and their flavour is good.—THOS. BRADSHAW.

Charleville Forest, Tallamore.—The fruit crop here this season is most prolific. Strawberries were never so early. John Ruskin was fit to gather on May 23, Noble a few days later. The sorts grown with the above are President, Scarlet Queen, Keens' Seedling, Dr. Hogg, Sir J. Paxton, Bothwell Bank (which does remarkably well here), Competitor (which is not a favourite), and Royal Sovereign, which is excellent. Gooseberries, too, were very early. On May 10 they were fit for tart making and very abundant. Apples all round are a heavy crop, and appear to swell better than I have noticed for some years. There are a few sorts, including Ecklinville Seedling, Manks Codlin and Dumelow's Seedling, that have been badly infested with a small grub in the early part of the season. Pears likewise are abundant. Plums are heavily cropped, but the long, dry season has given such a dose of red spider to them, that more than half the leaves are dropping off, which is bad for the proper ripening of the present crop. Damsons are in every way similar to the last.

With reference to Peas, I find that none are earlier than A. I., Wonder, and Dickson's First and Best. I think very highly of Duke of Albany.—ROBT. McKEENA.

Straffan House, Co. Kildare.—The fruit crops here on the whole are very satisfactory. Pears are under average and of excellent quality. Our best Strawberries out of a dozen kinds are Vicomtesse Hébert de Thury, Lord Suffield and President, but for all purposes the Vicomtesse has no equal. The Apple crop is a sample of the season here that stands next to superior to all the others is Cox's Orange Pippin. The crop is very heavy, highly coloured, and the fruit much above the average size. Plums, Cherries and all small fruits are plentiful and good.

Vegetables, with the exception of Peas and Cauliflowers, have been good and plentiful. The best Peas have been Chelsonian, Omega and Criterion, and if I were confined to one Pea it would be the

last, having grown it from the time that it was introduced. Early and midseason Potatoes good and free from disease, the tubers being large. Late kinds also promise well.—FREDERICK BEDFORD.

Headfort Gardens, Kells, Co. Meath.

The fruit crop here is barely average, the dry spring being much against Apples and Pears. There are good crops of Currants and of good quality. Gooseberries poor. Strawberries have been very good, Royal Sovereign doing remarkably well.

This has been a trying season for vegetables, but Peas have done very well. Sutton's May Queen and Chelsea Gem were sown at the same time, but May Queen came in first. Sutton's Matchless Marrowfat is a very fine Pea, and with me has withstood the dry weather and given good return. Royal Jubilee has also been good. Veitch's Perfection also does well here, coming in as it does at a most useful time.—J. HOUNSLOW.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

At a meeting of the fruit committee held at Chiswick on September 17 (eleven members present) a great deal of time was devoted to the trials of Beet, Potatoes and Cabbage. There were but little new in Beet; indeed, many kinds were far too coarse and others lacked colour. Cheltenham Green-top was the best of all, and was sent from various firms, all good. Potatoes when cooked lacked quality, and many had grown out badly. Cabbage, though good in a few cases, did not present any special features, and received no awards, some of the stocks being very much mixed.

The following received three marks—the equivalent of an award of merit:—

POTATO TRIUMPH.—A very handsome white-fleshed, pebble-shaped tuber, with a rough skin. It is an enormous cropper, of good flavour when cooked, and one of the best kinds for late use. Messrs. Sutton and Sons, Reading.

POTATO SYON HOUSE PROLIFIC.—An very fine late, pebble-shaped variety, skin rough, flesh white. It is a very heavy cropper, free of disease. This when cooked was excellent, and though it received an award last year when on trial as a new variety, this award was again confirmed. Messrs. Veitch and Sons, Royal Exchange, Chelsea.

POTATO EARLY WHITE KIDNEY.—A very fine second early kidney, flesh white, of excellent cooking quality. For a kidney it is a grand cropper. A very good variety for autumn use. Mr. R. Dean, Ealing.

POTATO SAXON.—A roundish or pebble-shaped tuber, grand cropper, free of disease, and noted for its good flavour when cooked. From Messrs. Kent and Bryden, Darlington.

BEEF CHELTENHAM GREEN-TOP.—A superb Beet, bright red in colour, root above medium size and handsome, foliage green in the true type. It is a very fine quality Beet when cooked and good in all soils. From Messrs. Yates, Cheltenham, and several other firms.

BEEF DWARF RED.—A well-known Beet, but still one of the best; roots of medium size, dark in colour and of excellent quality. Messrs. Nutting & Sons.

BEEF PERFECTION DARK RED.—A valuable sort with shapely roots, dark red in colour and of good quality. A true stock and an acquisition. From Messrs. Head & Son.

BEEF DRAKE'S CANTERBURY.—A well-known variety, but one of the best, root long, very shapely, of a deep crimson colour, and of first rate quality. Messrs. Nutting & Sons.

NEW EGYPTIAN DARK RED EARLY.—A Turnip-rooted Beet, bright red, free of the objectionable white markings many of the Turnip-rooted kinds have, and of first class quality. MM. Vilimor et Cie, Paris.

BEET RED GLOBE.—A Beet of splendid colour, perfect in shape and of a deep red. It is a Turnip-rooted variety and noted for its earliness and superior flavour. Messrs. Watkins & Simpson, Strand.

NATIONAL CHRYSANTHEMUM SOCIETY.

The floral committee of this society held a meeting on Wednesday last at the Royal Aquarium, when Mr. T. Bevan occupied the chair. The attendance both of members and exhibitors was small. A first-class certificate was awarded to

CHRYSANTHEMUM BARBARA FORGES, a large variety of Japanese form, semi-globular, with long twisted grooved florets of medium width and in-curving : colour white. Shown by Mr. W. J. Godfrey, of Exmouth.

A vote of thanks was awarded to Mr. J. Green, of Dereham, Norfolk, for a collection of Cactus Dahlias.

NOTES OF THE WEEK.

Pentstemon Mrs. W. H. Martin.—The blossoms of this are of a rich crimson-magenta shade, the interior being lined and striped with white. The spike of blossom is unusually bold and massive, and the individual flowers equally so.

Gladiolus Butterfly.—This is one of the Lemoiné hybrid forms, with large hooded blossoms of a creamy shade in the upper segments, and having a heavy blotch of crimson and scarlet in the lower petals that are also tipped with green. It is a showy and handsome form now in flower.

Lilium auratum.—An ordinary-sized bulb of this Lily planted this spring in the open has thrown up a fasciated stem about 3 feet 6 inches high. This is bearing 125 blossoms, making a compact head of bloom 18 inches through and 16 inches in height. It is growing in the garden of Miss Attenborough, Sheffield Park, Fletching, Uckfield, F. T. Wood.

Tulipa Greigi.—In his article of 19th inst. M. Van Tubergen says that *Tulipa Greigi* very seldom forms side bulbs. In Colonel Wynne Finch's garden near Fivillehill the bulbs of T. Greigi have increased considerably by offsets. I think the gardener told me that twelve bulbs had increased to nearly forty in the course of three years. The soil is a sandy loam with, I think, a clay subsoil.—E. C. BURTON.

Crocus zonatus.—An exquisitely beautiful and delicate species for autumn blooming, the satiny lilac blossoms, which are golden at the base internally, being very pretty. It is one of the easiest to cultivate and most rewarding in quantity at Long Ditton at the present time is one of the most beautiful, as it is also among the most freely flowered of the genus. Like some others, the flowers appear before the leaves.

Cochicum bulbiferae *roseum plumum*.—This is a fine distinct form now flowering freely and well described by its varietal name. The particular shade of colour is a warm rose like that is very pleasing. The segments are very numerous so that the flowers remain in good condition for some time. Of a somewhat deeper shade of lilac purple is *C. byzantinum*, with single flowers that are also very showy when seen in good-sized groups.

Dwarf Marigold Legion of Honour.—This pretty neat habited and free-flowering plant has been for many weeks past figuring in the bedding arrangements at Syon House, where a pair of beds have been devoted to it. Its very dwarf and compact habit as well as the distinctly marked flowers are very attractive. Besides the variety bearing the above name is one with glossy chestnut blossoms, equally dwarf and free, and likely to prove quite as useful.

Crocus speciosus.—This species is now one of the chief attractions among autumn Crocuses in the very large collection of such things to be found at Long Ditton, where Mr. Barr devotes

whole beds to certain of the more showy varieties. Indeed, by reason of its showy character, its simple cultural requirements and its cheapness, it is without doubt one of the best. It is so well known and so universally admired, that little need be said in its favour.

Pentstemon Constance.—This is a very charming variety, with self-coloured blossoms of a lively salmon-rose externally, a shade by no means common among Pentstemons. Internally the tube is nearly clear white, which gives it a most attractive appearance. It is one of the most brilliant when seen in a group, and the well-filled spikes of bloom are handsome in the extreme. Where distinct shades of colour are needed note should be made of thin Pentstemon.

Heliosia scabra B. Ladrambs.—This is a new and distinct variety. It is, I think, a great improvement on the type. It is perfectly hardy, grows from 3 feet to 4 feet high, and is a perpetual bloomer. The flowers, each from 2 inches to 3 inches in diameter, are of a beautiful deep golden yellow colour. It is very useful for cutting, the flowers keeping quite fresh for sixteen days, and for this reason far superior to many other species of this family.—F. B., Southampton.

Lilium speciosum Meijopome.—This is not only the most richly coloured form of the whole of the speciosum group of Lilies, but one of the handsomest in the genus. Where a bold striking effect is desired in the garden or conservatory, this Lily will prove invaluable. The flowers are of an intense blood-crimson, and, being large and freely produced, render it a striking object. Being of a vigorous constitution and perfectly hardy, it should be freely grown for autumn effect.

Montbretia Etoile de Feu.—This is perhaps one of the most striking of the newer forms of these exquisite flowers, alike valuable for the border, for pot culture, or for cutting. This variety has flowers of a vermillion shade. Phare is another, with orange-scarlet and gold flowers, while Bouquet Parfait is quite distinct in its more orange-yellow hue, over which a shading of vermillion is very showy. These, among others, were very conspicuous recently in Messrs. Barr's nursery at Ditton.

Marguerite Carnations.—We recently noted a strain of this Carnation of exceptional merit growing and flowering in pots in the gardens at Syon House, where they are much valued by Mr. Wythes for their free growth as well as for the abundance and variety of their flowers. The latter were in many shades, the percentage of double being very large. A noticeable feature of this strain of Carnations is an absence of splitting of the calyx. The colours included white, pink, rose, and scarlet, some of the varieties presenting quite a strong Clove fragrance.

Cochlicum Sibthorpi.—This is a very distinct and well-marked member of this beautiful group of autumn flowers, all of which are of great value for naturalising. The flowers of the above variety are among the largest of the Meadow Saffrons, the perianth segments of a warm rose-purple and beautifully chequered. Prior to expanding the buds, standing boldly erect on stems 18 inches high, are very effective. In many forms the perianth is of a sort silky character, while in *C. Sibthorpi* it is of much greater substance, thus rendering the flowers very durable. This very handsome kind, which is not in flower in Messrs. Barr's collection at Ditton, is somewhat scarce.

Campanula pyramidalis alba.—At Syon House this fine Campanula is grown largely. It is very rarely in private gardens that this handsome plant is taken up especially in hand as is the case in these gardens, where it is grown practically by the hundred. At the present time but little is left of the crop of the present year, but Mr. Wythes has a fine lot of young plants in 5-inch pots for next year's display. Though practically hardy, it may, as is the case at Syon be employed with fine effect in large conservatories among fine foliaged plants. Indeed, few

plants can compare with it in this respect when well grown, its pyramids of snow-white flowers towering to a height of 6 feet, to say nothing of lateral growth and bloom.

Colchicum autumnale album plenum.—There is perhaps nothing finer among the numerous array of Meadow Saffrons at Long Ditton than this old and valued, yet still rather scarce plant. Five and twenty years ago we remember seeing the fine vigorous clumps of this plant that the late Mr. Robert Parker cherished with so much pride in his wilderness garden at Tooting. This garden was a sort of private reserve for a few choice plants, and being well planted and, better still, left alone, glorious forms were formed, and these produced quantities of beautiful flowers. These Colchicums were singularly attractive in the sandy soil of Tooting, and they appear equally promising at Ditton, where many of the finest are now in flower at the present time.

Cyclamen neapolitanum.—The pretty, jolly hardy Cyclamens which are now in flower are among the treasures of our early autumn hardy flowers. There are some indescribable beauty and charm in the pretty and elegant flowers that are only fully grasped when the established corms throw up such a wealth of colour and exquisitely marbled foliage as may now be seen in Messrs. Barr's nursery at Ditton. Here the large, broad masses of foliage, several feet across, are indeed a feature, and the more valuable from a decorative point of view because uninjured even by the most severe frost. Not less beautiful are the pretty coloured blossoms, which at all times are attractive, particularly when planted in mixtures.

Roses Queen Mab and Enchantress.—We are reminded of the value of the China and Tea Roses for autumn flowering by some blooms of these two varieties which have been sent us by Messrs. W. Paul & Son, Walham Cross. The former is a most beautiful variety—it colour a soft rosy apricot, the centre shaded orange, the outside of the petals tinted rose. From the shoots that have been sent, it seems a very free flowering sort and will be found valuable in the garden and also for cutting. The other kind has creamy white flowers, slightly tinted with buff in the centre, full and of fine globular form, the petals slightly recurved. It too is very free flowering and ought to find a place in every collection of Roses.

Lilium speciosum album novum.—This pure white form of the L. speciosum section is quite distinct. It is also grown under the name of L. s. album verum, but in either case may be readily identified by the saunders being of a golden yellow instead of chocolate-brown so generally seen in the white varieties of this group. The above form may be said to be the whitest of all the speciosum varieties, at the midrib, which in Kew is 1 in. of a greenish tint, nearly half the length of the segment, is in this instance of the same shade as the flower, thus giving it a purer and whiter appearance generally. It is a perfectly hardy variety and an excellent kind for pot culture, that may with fair treatment be relied on for years in succession.

The Mexican Orange Flower (*Choisya ternata*).—This, as an ornamental shrub, deserves all the praise your correspondents have bestowed upon it. I have it planted in different situations, some being very exposed to the north-east wind, where the common Laurel was much injured in the beginning of 1895, but where the Choisya stood uninjured. It should be planted as a shrub in a good deep soil and have a sheltered situation, when its foliage becomes most beautiful and luxuriant. It is generally much admired by visitors, whether in or out of bloom. Although I had a fair stock of it, I have just bought fifty more beautiful young bushy plants, many of which will be distributed among the cottagers to ornament their gardens.—JOHN GARLAND, Killerton, Exeter.

Helianthus Miss Mellish.—The history of this fine variety would be interesting if anyone

can tell it. In the last twenty years I have seen many forms of *Helianthus rigidus*, some collected wild, some from nurseries, some raised from seed saved in this garden, but this grand form is by far the finest of all of them. It is now on September 21 more than 7 feet high and full of magnificent flowers each nearly 5 inches across, with a dark brown disc. The nearest approach I have had to it is one identified by Asa Gray as *H. latiflorus*, but often sold as *H. rigidus semi-plenus*. The flowers of this are not quite so large, though more double, and the stature is a foot less. The disc also is more yellow than that of Miss Mellish.—C. WOLLM-DOD, Edge Hall, Malpas.

This deservedly popular Sunflower is now flowering grandly in many collections. In the herbaceous border at Syon House are some handsome clumps of it quite a mass of rich golden flowers. These are produced on strong stems a foot or more long, and are, therefore, of great service for cutting. This variety also possesses the additional advantage of improving in water, which some of these Sunflowers do not, this restricting their use very considerably.

Cypripedium Chapmanii.—This beautiful new hybrid is now in flower in the collection of Mr. R. J. Measurac, Cambridge Lodge, Camberwell. It is quite distinct and a lovely addition to the Cypripedials. It is the result of a cross between *C. Curtissi* and *C. bellatulum*. The flower-scape, which carries two flowers, is about 6 inches long. The dorsal petal is 1½ inches broad by 2 inches long, the ground colour greenish white, the basal half heavily suffused with purple and thickly spotted from the base upwards with dark purple spots. The ground colour of the petals is greenish white, the whole suffused with purple, and thickly covered with darker purple spots. The lip is deep purple in front, shading to greenish white at the base, veined with a darker colour, the whole covered with greyish hairs. The disc of the column is purple, with a blotch in the centre and margined with greenish white. The foliage partakes in a remarkable degree of that of *C. Curtissi*, which is an unusual feature in the *C. bellatulum* crosses. The influence of both parents can be plainly discerned.—STELLS.

Stokias radula.—I am sending you two very poor flowers of this curious and interesting South African plant; it has been flowering well here for some weeks past and has been very attractive. From tufts of broad-toothed foliage the flower-stems arise. These are branched towards the summit, each branch bearing large heads of pale yellow flowers. The plant has done remarkably well here, and no doubt will prove to be quite hardy. *Stokias membranifolia* is just coming into flower (leaf enclosed), some measuring 20 inches by 9 inches. *Helianthemum superbum* is now in its full glory. It is a first-class plant for late decoration, far superior to *Helianthemum autumnale*, which is not worth growing. One of my plants has thrown up fourteen well furnished spikes, some containing over 100 flowers and buds. *Helianthemum grandiflorum* is also very fine; flowers much larger than in *Helianthemum superbum*, but not borne in such profusion. Some flowers measure over 4 inches across, and no doubt they would have been much larger had the weather been more favourable. *Aster Mackii* is now in full flower. It grows about 2½ feet, and throws several well furnished stems, which are literally covered with pretty pale lilac flowers. The flowers of *Anemone* sent are from seedlings of *Anemone japonica* alba Lady Ardenlaun. Several are very similar to *Anemone Whirlwind*; others are semi-double, faintly flushed with rosy purple.—AMOS PERRY.

The weather in West Herts.—Since the present month began there have been only two unseasonably wet days, while, on the other hand, only two nights have been unseasonably cold. Both of the latter occurred in the past week, and on one of them the exposed thermometer fell to within a degree of the freezing point. The temperature of the soil, both at

1 foot and 2 feet deep, is now about 2° below the September average. There have been only three days without rain this month. The aggregate fall now amounts to 5½ inches, which is nearly twice as heavy as the mean for the whole month. Shortly before three o'clock on the afternoon of the 22nd the rain was falling for five minutes at the rate of 2½ inches an hour. During the night of the 22nd the wind was very high, and for the hour ending 2 p.m. was travelling at the average velocity of 32 miles direction W.S.W. This has been the only gale experienced here since the middle of March. On the 19th and 20th there was the best record of sunshine for over three weeks.—E. M., Berkhamsted.

PUBLIC GARDENS.

Opening of a new park at Wolverhampton.—Wolverhampton was *en fete* on Tuesday on the occasion of the opening of its new east park. The park covers an area of 50 acres of land at the east end of the town, and is the joint gift of the Duke of Sutherland and Sir Alfred Hickman, M.P. Wolverhampton now possesses two magnificient new parks.

New open spaces.—The County Council parks and open spaces happily are still on the increase. The Parks Committee are about to take in hand the 8 acres or thereabouts which they have acquired at Sydenham, and the 22 acres that have been secured in the densely populated district of Deptford have now been converted from their market garden condition to that of a pleasant grassy enclosure.

Fortune Green, West Hampstead.—In spite of the owners having consented to a considerable reduction of price, the benevolent effort of the committee of friends of West Hampstead to save and extend old Fortune Green for the re-creation of the children of the now crowded district is about to fail through for the sum of about £400. Unless within the next few days the amount is promised, building will recommence, and London will have one green oasis less. The treasurer is Captain Merry, Edensor, Finchley Road, N.W.

Distribution of plants from royal parks.—We are requested to announce that the Commissioners of Her Majesty's Woods and Public Buildings intend to distribute this autumn among the working classes and poor inhabitants of London the surplus bedding-out plants in Hyde and Regent's Parks, and in the pleasure-gardens, Hampton Court. If the clergy, school committees, and other interested will make application to the superintendent of the park nearest to their respective parishes, or to the superintendent of Hampton Court Gardens, they will receive early intimation of the number of plants that can be allotted to each applicant, and of the time and manner of their distribution. Any cost of carriage must be borne by the recipients.

Black flowers and their cause.—Will any reader of THE GARDEN kindly tell me (1) is there a flower perfectly jet-black—with no intermixture of any other shades? I am aware of what may be termed a black Pansy, but as to its monotony of colour there may be reason to doubt. (2) Does the gaseous properties of the sun favour such a colour? (3) Why are black and green colours so uncommonly met with?—R. J.

Names of plants.—*Rex*—7, *Caladium esculentum* sp.; *Maranta* sp. Kindly send the others again; the numbers refer to the specimens being packed so loosely, the labels Moss had got disarranged.—4, *M. Lehmanni*; Forms of *Aster Novi-Belgii*—Anon.—1, *Saussurea alpina* (not generally grown for sale in nurseries); 2, *Impatiens Nil-me-tangere* (British plant).

Names of fruit.—*J. R. Nerv.*—1, *Lady Henrique*; 2, not recognised.—*T. M.*—Probably *Hawthorn Souring*.—*E. F.*—1, *Brown Beurre*; 2, *Souvenir du Congrès*.

No. 1288. SATURDAY, October 3, 1896. Vol. L.

"This is an Art
Which does men Nature: change it rather; but
The Art itself is Nature."—*Shakespeare*.

ORCHARD AND FRUIT GARDEN.

HOW APPLES SHOULD BE PACKED.

WHEN our fruit is carefully selected and well packed there is always an active and large demand. The matter of price is of course regulated entirely by supplies and the landing condition. During seasons of large European crops our badly-selected and poorly-packed Apples suffer most, but in my long experience as an exporter of Apples I have found that well-selected and carefully-packed fruit invariably brought higher prices in the large markets of Europe than could be realised in our home markets at corresponding periods. While it is admitted that North American Apples are the finest in flavour and in flesh—unless we except the Russian—that enter English and Continental European markets, the selecting and packing are most deplorable. Fully one-half of what is sent by the average packer should not be sent at all. To put it more exactly, packers must realise that what they have been in the habit of putting into two barrels would net them as much, if not more, if the best of them were put into one barrel, thereby saving the extra barrel, labour, freight and charges on same, as well as what might be the value of the poor fruit for cider or other purposes at the orchards.

To my knowledge, New England as well as New York produces many varieties of fall Apples that are of little value now to growers, and heretofore were thought too tender to export in barrels, considering the time it used to take to cross the ocean, which, with the introduction of faster steamers, reducing the time of passage greatly, and the packing of such fruit in boxes holding half a barrel, and the wrapping of each piece of fruit in paper, the same as Oranges and Lemons, can now be landed in the principal markets of Europe in a perfectly sound condition, and at a period when Europeans are the most destitute of fruit.

I have made experiments for years in this direction, and the last two years have demonstrated that it is perfectly practicable, and a paying business to those who have tested it properly. The case I recommend, and which I have used, is in shape and style similar to the Orange box now in general use, but somewhat different in measurement and construction. It can be made of any kind of wood that does not warp. The ends and middle piece should be made of three-quarter-inch wood, and be cut just $12\frac{1}{2}$ inches one way and 13 inches the other. This will of course make two compartments $12\frac{1}{2}$ inches by $12\frac{1}{2}$ inches by 13 inches. The pieces for forming the ends should be planed on the outside, but the rest of the wood for the case can be made of fine sawed lumber. The pieces forming the sides should be of three-eighths-inch wood, and consist of at least two pieces and not more than three to a side. When nailed up there should be a space of at least one-quarter-inch between each strip to admit air. Use 2-inch wire nails in putting together. The outside dimensions of the case are exactly $23\frac{1}{2}$ inches long, $13\frac{1}{2}$ inches wide, and $13\frac{1}{2}$ inches deep.

This case is intended more especially for the delicate varieties of fall Apples, as well as for fine selections of winter Apples for table use.

You must remember that you are catering for a better class of trade than the barrel generally invites, and the higher the selection as to quality, the greater will be the price paid for the fruit. My friends in Europe have very frequently made as much for a case as for a barrel, and in some instances where the fruit had been extra fine they have made as high as 12s. 6d. and 16s. 6d. a case. Fall fruit, such as Duchess, St. Lawrence, Alexander, Gravenstein, Snow, Wealthy, and in fact any kind of a red Apple that will not carry safely in barrels, except Astrachan and Williams, will carry perfectly well in these cases. I am quite confident that with careful selecting and packing, growers will find that their fall fruit, put up in this manner for export will net them more money than their winter fruit. Bear in mind foreigners like a crisp Apple, mealy Apples, such as Porter, Williams, and Astrachan, are not favourites.

In packing, care should be used not to bruise or injure in any way, and in selecting throw out wormy, bruised or defective Apples. Each Apple must be wrapped in paper somewhat after the style in which Oranges and Lemons are packed. Pack snugly and carefully, but do not use force sufficient to bruise the fruit. Any slack space fill up with excelsior or crumpled balls of paper. Keep the fruit in a cool place and out of the sun after picking and packing. Avoid leaving the fruit on the grass over night. When winter fruit comes along, any day will do for shipment, but fall fruit should be handled quickly, and must be here (Boston) on a Tuesday to go by Wednesday steamers, and Friday to go by Saturday steamers. Therefore, pack fall fruit as late as possible to have it arrive here Tuesday or Friday morning. Remember it is a great advantage to pack as quickly as possible after picking. Do not expose the case to the rain or damp, especially after it is filled with fruit.—*Geo. A. COCHRANE, Boston, Mass., in Country Gentleman.*

Cherry Kentish Bed.—This Cherry should be largely planted in private gardens for cooking, as it not only ripens early, but it is an immense cropper. Grown in bush form the trees when established are very prolific, and being so hardy, they give but little trouble beyond pinching the young shoots in summer and thinning the wood out where it is too thick in the winter. It is also good grown on a north wall, and then keeps up the supply until the fruit on the bush Morello is ready for gathering. The fruits are medium-sized, but may be had much finer if the border is well mulched with partially decayed manure; in fact, it is a variety of Cherry that will stand a great deal of feeding from the surface, resembling the Morello in this respect. The flavour is acid. It is first-rate for jam-making and bottling. For the latter purpose the fruit should be used with the stone still adhering to the stalk. This is a good test to determine when the fruit is sufficiently ripe enough for the purpose mentioned.—*S. E. H.*

Outdoor Pear trees.—Now that the season is nearly over—for the crops will have been gathered from the majority of the trees by this time—attention should be turned to the trees once more, giving them a final look over in order to relieve them of all superfluous wood. There is not much to do in this direction when the trees are intelligently cared for, as very little wood than is considered necessary is retained when laying in. On the other hand, where a full inch of wall space has been filled by laying in wood without the slightest consideration as to its being ultimately removed or not, the same should be dealt with once. In such cases the young wood should be judiciously thinned out, cutting away all weak and badly-placed growths, and retaining none but the stouter-looking and

better ripened wood. Lateral growths should be cut away and the old bearing wood also. Gross-looking shoots should be rejected, and if any of the trees have many of these, and they have borne but sparingly, they should be marked for root lifting with a view to correct the evil. In such cases as this the partial lifting of the roots may be undertaken at once, the fact, that it is done the better. The matching of the surface of the borders had better be removed now, and this will allow the rays of the sun to penetrate and warm the surface of the border, and so assist in the ripening of the wood and the checking of late growth. If the autumn proves wet and the mulch is kept over the roots very late growth is encouraged, and this, to say the least, is prejudicial to the well-being of the trees, and also endangers the chances of a crop the following season. Where red spider has been rampant during the past summer, the foliage should be well washed as soon as the fruits are gathered, and this will enable more drastic measures to be used in the effort to subdue the pest. On the whole, I think nothing equals cold water with a little soft soap and sulphur added, at this time of the year, and, the fruit being gathered, there is nothing to be feared in the way of disfigurement from the use of the sulphur.—*A. W.*

Apple Bismarck.—“A. W.” is fully justified in his laudatory remarks (p. 223) concerning the above Apple. Many of the fruits turn the scale at 1 lb., and it is no uncommon sight to see small bush trees on the Paradise stock carrying 20 lbs. weight and over of handsome, well-coloured fruit. Since the trees have been planted, three years since, they have cropped well, and in spite of the dry season and their fruitfulness, the picture of health. The Apple is a great favourite with buyers in this neighbourhood, the pleasing colour and handsome shape at once attracting the public, though I should not have said that the fruit was particularly solid or heavy for its size. After reading “A. W.’s” note, I measured three 1-lb. Bismarcks, taking their circumferences both horizontally and perpendicularly. The measurements of the three were practically identical, and the same as a Bramley’s Seedling of 1 lb. 4 oz. It may be that here the Bismarcks are lighter for their size than with “A. W.” At any rate, heavy for its size or no, this Apple is one that should command itself both to growers for market and for home consumption.—*S. W. F., South Devon.*

—I quite agree with the remarks of “A. W.” (page 223) as to the merits of this noble-looking Apple. I have it in espalier form, and quite young trees crop so freely that the fruit has to be thinned. Last November I saw a magnificent dish of it exhibited at Lincoln in size equal to the finest Peasgood’s, and of fine colour. The only fault I have to find with Peasgood’s in espalier form is that it is so long before it bears freely even in spite of root-pruning and complete lifting, but which, I think, is its fault grown in any form. When it once commences to bear, the fruits are of the largest size and extra well coloured.—*J. C.*

Morello Cherries in autumn.—I am not sure if the old-fashioned system of tacking in every bit of lateral growth made on Morello Cherries is the best under all circumstances, in poor soils the trees carry such a weight of fruit that the fruit is small, and after a few years the tree collapses. I am not going to advise growing the trees on the spur system like the eating kinds, though I am not quite sure but that in many cases it would be safe advice. I have seen it carried out successfully, but only in suitable soils and in favoured localities. My note concerns early autumn work as regards this fruit, and the necessity for more liberal treatment. My plan is for more extension and less cramming of the wood. By removing small weak spray there are finer fruits and much less work, no need to stand shivering two or three days at one tree, and if the operator was a novice having to go over the work again. By removal of spray not required, training is much easier and much pleasanter. I am aware I lay

myself open to severe criticism, as some may in form me the best fruits are produced on the small spray. I think not, as by cutting it back close there will be no lack of fruit and it will be much finer. In many cases the cut back portion will make a spur. On these spurs I have got my best fruit. Of course this thinning out should be done early, this allowing of this season's wood being laid in. I do not advocate undue thinning of new or good wood, but I do advise removal of weak shoots, crowded shoots, also long naked wood, with only a small bit of spray at the point. By doing this work now there will be no pruning later and the trees next season will be all the better.—G. WYTHE.

Apple Allington Pippin.—I recently saw this new Apple in the Maidstone Nurseries, and it will, I think, prove a valuable dessert variety.

The trees are fruiting quite close to the soil on the Paradise stock, and it is so distinct in growth that it can easily be seen in the garden. This variety was first known as South Lincoln Beauty, but as this name was apt to cause confusion it was re-named. As the variety in question received a first-class certificate in November, 1894, I was pleased to see it such a good crop in what may be termed an unfavourable season. It shapes it somewhat resembles a Cox's Orange, but is a later fruit and of first-class quality. It is supposed to be a cross between Cox's and King of the Pippins, and its season is November to January. At this season the flavour much resembles that of a good Cox's and the flesh is very firm. With cool storage and the fruit gathered as late as possible it should keep well into the spring, a season at which we have none too many good dessert Apples.—G. WYTHE.

NEGLECTED ESPALIERS.

It is not unusual to read a good deal respecting neglected orchard trees, and, unfortunately, it is impossible to go far in any direction without seeing that there is ample need for reform in this phase of fruit growing. A point less often noted, yet one that affects us as gardeners even more closely, is the sad want of a little more care being bestowed on espalier trees of Apples and Pears. In two instances of my taking charge of a fresh garden I have found the espalier trees in a most neglected condition, and in visiting other gardens where other branches are well done and bush and other fruits well cultivated, the same neglect in the espalier is apparent, and it is the exception rather than the rule to find really well-cultivated espalier trees. Year after year the fruit spurs are allowed to thicken and lengthen, the young shoots getting further away from the main branches, every bit of young wood being cut closely in every season. The result is seen in small, mis-shaped fruit, and the appearance of the tree is like a thick and badly-trimmed hedge. So bad, in fact, do they appear, that at first sight it would seem impossible to do anything to renovate them, and the idea at once occurs to root them up and fill their places with healthy young trees. This, however, is not always advisable, especially in the case of Pears, and at all events it is worth while trying what can be done to improve them. Both roots and branches will probably require attention, and which shall be first depends upon the condition of the trees. If the shoots are very strong and vigorous, the roots must be attended to the first season, careful and judicious root-pruning being of the greatest advantage, and serving to check the exuberant growth that is being made at the expense of fruit. Many of the strongest will most likely be found running downwards almost vertically, and if there is plenty of surface roots, these may be cut off without any fear. All small and healthy roots must be taken care of and relaid as near the surface as possible, a liberal addition of bone-gardens refuse being made to the soil as tending to the production of small fibrous roots. This should always be done when the soil is in a nice friable condition, and never attempted while wet and

pasty. With trees, on the other hand, that have not above the normal size, the first thing necessary is to regulate these so that sun and air can reach every part of the tree. The present is a capital time to set about the necessary thinning, just as the foliage is losing colour preparatory to falling. Many of the oldest spurs will have to be cut entirely out, using a thin strong saw, those that are not quite so bad being cut back to where a few healthy fruit spurs of young clean wood can be left. It is not wise to thin too severely the first season, and in choosing the growth to leave, give preference to those nearest the main branches, so that in due time the young fruit spurs that form where the old ones were cut entirely out will be more jointed and not drawn owing to the thick foliage above them. Last year I sown several Pear seeds of such varieties as Jarrowdale, Bon Chrétien, and Louise Bonne in the manner described, and so bare did they afterwards look that I did not expect any fruit this season. The trees have nevertheless given some very useful fruit, those of the last named being exceptionally well-coloured. What is of greater importance the trees are studded with short stocky wood and have many promising looking fruit spurs. Anyone having such trees to deal with I can strongly recommend to set about them as early as possible. The wounds made will then heal before very severe weather sets in, and the removal of so much superfluous wood thus early will have the effect of assisting the finishing and perfect maturation of that left.

C. H. S.

FRUIT FOR EXHIBITION.

CAN you kindly tell me the names of the best Red Currants, White Currants, Black Currants, and Gooseberries for show purposes?—CONSTANT READER.

* * There would appear to be a certain amount of confusion in the nomenclature of Red Currants, but if "Constant Reader" can procure the true Cherry, synonymous according to some authorities, with Scotch Red, while others give Cherry as a synonym of Raby Castle, he will have a fine variety for exhibition. It is of a compact habit of growth and prolific, the bunches being somewhat short, the berries extra large, bright red in colour and ripening moderately early. He will do well to order Raby Castle to grow with Cherry, as, according to my experience, the former is a much taller grower and not very productive till the bushes are six or seven years old when the crops are heavy. The bunches are long, the berries large, bright red in colour and comparatively late in ripening. This variety is most often seen at the late August shows, and if the bushes are grown against cool walls in the old-fashioned style, good dishes could be had as late as November.

One of our leading nurserymen grows Baby Castle with Late Dutch, Houghton Castle, May's Victoria, and Cherry, but these are synonymous, it is quite time other nurserymen also revised their descriptions. I recently saw grand breadths bushes in Mr. Hammond's fruit orchards near Pilgrim's Hatch, Essex, which were planted for Baby Castle. It appears that other market growers assert that it is not the true variety, but Mr. Hammond is not greatly concerned about this, but congratulates himself upon owning a remarkably fine stock of the best Red Currant in cultivation. If the R.H.S. has not already initiated a trial of Currants, they ought to take the matter in hand soon.

"Constant Reader" will experience no difficulty in procuring the true White Dutch Currant, and will find this a compact grower, while the bunches freely produced, are of medium length, the berries large, transparent and of good quality. Carter's Champion, a variety bearing a strong resemblance to Black Noddy, is a fine Black Currant for exhibition, and also for the preserves. Lee's Prolific produces abundance of long bunches with fine berries, which hang longer than the Champion and would be the best for late shows.

The majority of the large-fruited Gooseberries are of either a straggling or weeping habit of growth, and some of the heaviest are inferior in point of quality. It should have been stated whether or not the fruit is to be judged by flavour or by mere size. Some few of the Lancashire Gooseberries are of large size and good in quality, and a few of these I will name. Bobby is a fine red-fruited variety, particularly good in quality, and Leader I consider an excellent yellow companion for it. Antagonist, white, is also superior, and the same may be said of Green Overall, green; Thumper, late green; Mount Pleasant, late yellow, and Ploughboy, late red. In the south of England well-grown Whitesmiths frequently takes prizes in July and first week in August, and very late in the season Red Warrington cannot be equalled by any other variety piled against it. The fruit of this variety is of medium size and the quality excellent even as late as October.

A deep loamy, moderately rich, freely-worked and well-drained soil is what suits bush fruits generally, but none of them are fastidious. What in very many instances they do require after they have attained a serviceable size is more manure. Private gardeners ought to take a leaf out of the market grower's book in this connection, as there are far too many bushes that are unprofitable, producing fruit that would be laughed at taken to a cottager's show, owing to being starved at the roots. Chemical manures are suitable for the more retentive soils, but winter or early spring mulchings of good straw manure do the most good where the ground is light and non-retentive in character. Bushes of Red and White Currants should have clear stems. Black Currants are best without them, those that are constantly throwing up suckers being the longest lived and the most profitable. When possible Gooseberry bushes ought also to have clear stems. The stems of bushes supplied by nurseriesmen are seldom long enough to keep the branches of pendulous varieties clear of the soil, but much may be done towards keeping the bushes high by cutting away the lower branchlets and pruning the reserved growth to well-placed upper buds. A "Constant Reader" may be glad to take a little extra trouble in the direction of supporting branches with stakes with a view to keeping the fruit of the prize varieties well clear of the ground, and if he desires extra fine fruit of these and bush fruits generally, he will early thin out the fruit where at all crowded.—W. L.

Pear Catillac.—This, the best of all stewing Pears, should be grown wherever fruits for this purpose are appreciated, as it is not only a good cropper, but the tree is very hardy and perfectly constituted. When grafted, as I have it, on the Swan's Egg and grown as a standard, it bears heavily nearly every year. This is undoubtedly, the best method of growing it for securing heavy crops, and the fruits in addition become highly coloured through being exposed to the full influence of sunshine. At one time I had a diagonal-trained tree of this variety on an east wall. This was satisfactory as far as crop and size were concerned, but the fruits lacked the flavour of those gathered from the standard when stewed, and were not at all to be compared with them for appearance. Stored in a cool place this Pear will keep in sound condition until March.—A. W.

Pear Nouvelle Fulvie as a cordon.—This variety deserves extended culture, and few Pears of December and January (when it is in season) can be compared to it. As most lovers of the Pear know, our choice of really good Pears at the season named is limited. I class Nouvelle Fulvie as a first quality Pear at the season named. It is equally good in bush or pyramid form; indeed, on these the best fruits are produced. A cordon it never fails to produce fruit, as well as its usefulness, make it worth growing in any garden. The fruits are large and melting, and though not so handsome as those of some earlier varieties, it is a Pear well deserving of a

wall in late districts or exposed positions. It is best grown on the Quince and allowed to mature before gathering, as, like most late fruits, it soon spoils if gathered early. On a north wall it fruits freely.—S. H.

Apple St. Edmund.—This Apple was shown well last season, the flavour being first-rate. So far it appears to me to be a very fine variety. I recently saw many trees of it, of course in a small state, and was surprised to find how free it is. Maiden trees had made a fine growth, and promise well for the future. This variety, if it resembles Wright, was the successful new variety at the last Palace show for any other variety not scheduled, and it was worthy of the award, as its quality in addition to its good keeping will make it an especial favourite. On the paradise it fruits grandly. I have only seen it in bush form, but this season I hope to plant cordon trees. It cannot be termed a small Apple, indeed its size recommends it. When better known it will be a good companion to the useful Egremont Russet.—G. W.

Peach Bellégarde.—This and Violette Hâtive are fine September sorts in this locality. The fruit of Bellégarde is fairly large, of a pretty bright appearance and excellent flavour; the tree moreover, is of free and vigorous growth, and sets fruit in great abundance, so that heavy thinning is absolutely necessary. On old walls earwigs have been a terrible pest this season, and from several trees I have been obliged to pick the fruits when not really fit, although trapping in Bean stalks, cut Potatoes, and pots filled with Moss was begun early, and has been continued right through the season.—H. R., *Bury St. Edmunds*.

Cherry Downton.—This is a good midseason variety that is superior to Governor Wood with me as regards cropping qualities and flavour. The flavour is very rich and the birds soon find this out, for if the trees are not netted as soon as the fruits commence to colour they soon devour them. It is a capital free-growing kind, and makes an abundance of healthy foliage, and the tree does not gum like other varieties. As a wall tree it is first-rate, and I should think it would also make a good bush or standard. The fruits are as large as those of Elton, yellow striped with red, and hang when fully ripe.—A.

Apricot Hemskirk.—Where Apricots are a success this variety should always be grown, as it is a little earlier than Moor Park, and the fruits are also larger, in fact they approach those of Large Early in size. The fruits are richly flavoured, and are greatly appreciated for dessert. I would advise its being planted in two rows, on a south aspect, and on the facing due west. The position would then both provide and succeed Moor Park. I grow it in this way and can therefore recommend it. Other features in connection with this variety are its more hardy constitution, and less liability to gumming and branch dying, two characteristics that stamp it as a good kind for amateurs and cottagers to plant. The foliage and habit of growth are quite distinct, and the spurs, if stopping and pruning are not strictly attended to, have a habit of getting too far away from the wall. The remedy for this, therefore, rests with the grower.—W.

Raspberry Belle de Fontenay.—I have been fore written in praise of this first-rate autumn-fruited Raspberry, and now wish to supplement my former note by adding that I have never known this kind so good and so prolific as it is this season. The fruits are also very fine, almost rivalling Superlative in this particular, and the flavour is very good when the rainy weather is taken into consideration. As a rule, October Red is much the better flavoured of the two, but this season there is but slight, if any, difference. The hot, dry weather caused the canes to grow much dwarfer than usual, and instead of their rushing away into growth with renewed activity when the rains came, and as I quite expected they would, the moisture enabled the canes to produce a finer crop of fruit than usual with a corresponding increase in the size of the berries. This

Raspberry should always be grown where late Red Currants are in demand, for obvious reasons, and where not required for this purpose, a row or two in one part of the garden would give a long-continued supply of fruit that comes in useful for supplementing the dessert after the bulk of the outdoor fruit is over.—A.

SHORT NOTES.—FRUIT.

Plum Coe's Late Red.—is a small, but valuable late cooking Plum that will hang well into November in some seasons on an east wall. Grown as a bush it is not quite so late, although equally valuable for private use. It also succeeds as a cord' n and is then very fruitful. In flavour it cannot be pronounced first-rate, but its late hanging property is its chief recommendation.—A. W.

Variegated Vine.—A variegated rod of exactly the same character as "W. I." describes in his article five and twenty years ago in the *Vine* at Forde Abbey. I have forgotten now whether it was a Muscat or Black Hamburg. At my urgent persuasion the then gardener—who seemed to have had no taste for variegation—struck a number of eyes from it. These came only partially true the first year, but ran out entirely the second. If it could have been it would have been a glorious fine foliaged plant.—J. M., *Charmouth, Dorset*.

ORCHIDS.

COOL ORCHIDS.

It is quite time the cool house was put in order for the winter, and when all needful pots, compost, &c., are ready, no time should be lost in making a commencement. Where the plants are thinly disposed, they can usually all be shifted to one end or the other while the glass, stages, and walls are being thoroughly cleaned. For the roof, use hot, soapy water, and clean the rafters as well as sponge the glass, this killing the eggs of spiders and other insects and allowing all the available light to reach the plants afterwards. If necessary the walls should be lime-washed, but at all events they must be well scrubbed with hot water. If latticed stages are used, these must also come in for a thorough cleaning, and where shingle, small coke, or any similar material is used, it may be turned and made to look neat. The use of such edging plants as *Panicum* and *Tradescantia* is not to be advised, but if these are present they ought either to be rooted out and replaced with fresh young ones prepared for the purpose or cut well back and allowed to break up afresh. All plants that do not require potting or top-dressing may then have their pots washed and be set back in order, while any that require this attention may meanwhile be seen to. Many of the spring-flowering *Odontoglossums*, as *O. crispum*, *O. triumphans*, *O. luteo-purpureum*, and others, will by now be rapidly swelling up their bulbs, and will soon be pushing young roots in abundance. If the old compost then is at all sour or decayed it should be renewed, and by the early spring the plants will probably be in a much worse state if left. None of these like much material about their roots, so the pots need only be large enough to take the plants easily. Fill up to within about an inch of the rim with clean crocks, and have ready mixed equal parts of the fibrous portion of peat of good quality and clean freshly-picked sphagnum. A quantity of finely broken crocks must also be ready to hand, but not mixed with the other material, as with small plants especially it is much easier to mix these in as potting proceeds. These plants, as a rule, root rather lightly, so that they are easily taken out of the pots if they are clean. Disturb the roots as little as possible, but leave nothing that will be likely to turn sour or any dead roots. In dealing with the smaller plants,

say those with six or eight pseudo-bulbs, after clearing the roots wrap a little of the new material round them just under the base of the bulbs. This will raise them to the required height, and then a handful of the small crocks may be placed around it. Put on a little more of the fibre and Moss and press it in firmly with the dibber, afterwards clipping off all the ragged portions and dibbling in a few fresh points of Moss around the edge of the pot. Larger plants that cannot be gripped in the hand must be placed in position and potted in the usual way. It is not worth while to enumerate all the species that require this treatment. The best index for inexperienced cultivators is the size of the roots themselves. Those with fine roots like the kinds already named do with a firm root-run and fine particles thinly placed, while larger-rooted kinds—for instance, *O. Edwardsii*—like rather more material, used in a rough and very open condition. For these it may be mixed beforehand, or the rough nodules of charcoal and crocks may be kept separate, but care is necessary that all the fine parts are not placed in one pot and the rough in another. If any suspicion of insects exists, have each plant carefully sponged before replacing in the growing quarters, those especially liable to attacks, such as *Masdevallias* or *Odontoglossums* of the *Roezli* or *vekilianum* types, being closely examined and carefully cleaned. Many growers prefer to repot *Masdevallias* in spring, and there is much to be said in favour of this, but where those of the Harryana and similar types lose many of their roots during winter, late summer or autumn potting often checks, if it does not entirely arrest this decay, owing to the material being new and sweet. The point is to catch them while root action is still brisk, so that they get a good hold before winter, and if seen to be necessary in spring, a little new material may again be added to the surface.

Among the *Odontoglossums* there may be some plants that only require surfacing. Those, for instance, repotted last season and known to have the drainage in good order may have a little of the top compost that sometimes looks stale taken off and replaced with fresh. It is important in this connection that a little charcoal or crocks be added, or the addition of peat and Moss to the surface may cause a too thick layer, to the detriment of the roots. Other plants likely to want this attention are *Oncidiums* of the *macranthum*, *undulatum*, and *serratum* types, but the large roots of these and similar kinds are best suited with rougher material. Small-growing plants in baskets or pans may also be looked over, such *Oncidium* as *O. cucullatum*, *O. Phalaenopsis*, *O. concolor*, and many others often requiring attention now. *Sophronitis* coming into flower must not, of course, be disturbed, and these will be better left until spring. Although less water will, of course, be needed after potting, it is a mistake to let these cool Orchids become really dry. If caught at the right time, most of them will commence to root at once, and with such plants there is little trouble. A nice moist atmosphere must be kept up, and if the majority in the house have been potted, a few degrees more heat than usual will not be wasted. Heavy syringing overhead is not advisable, but a slight dewetting with the syringe several times daily is helpful. R.

Cattleya granulosa.—When strongly grown and well flowered this Cattleya is very attractive, the distinct olive tint in the sepals and petals with the crimson-dotted lip forming an agreeable, if not very showy, combination, and one rarely found in Orchids. The habit is that of *C. guttata*, but it is not so strong growing, nor

in fact, is it so easily grown, though if ordinary care is taken it cannot be called difficult of cultivation. The pots must be considerably smaller than for guttata, as the roots are not so freely produced nor so vigorous as the latter kind. For the same reason only a thin layer of compost is necessary, this consisting of the usual mixture as advised for Cattleyas generally. Keep the plants if possible to their natural routine of growth and rest. The young shoots start from the base of the old bulbs in spring, and should be pushed on until the flower-spikes appear. When these are fully open place the plants in a cooler and somewhat drier house, and there will not then, as a rule, be any difficulty in keeping them dormant through the winter. Insects must be kept in check, especially the white woolly scale so commonly affecting Cattleyas, this getting down about the young eyes if not seen to and checking the plants considerably. The usual Cattleya house temperature is warm enough for it summer and winter. It is a native of Guatemala and was introduced about 1841.

Oncidium triquetrum.—This pretty little Jamaican species is seldom seen. It has triangular leaves each about 5 inches high. The spikes each carry about a dozen flowers, pale greenish white, sometimes lightly suffused with rose colour and spotted with purple. It does well and looks very pretty grown on pieces of Tree Fern stems, and may be suspended not far from the glass in the warmest part of the Cattleya house. While growing freely it must be kept well supplied with water at the roots, and having no pseudo-bulbs, must not be overdrained at any time. It is one of the oldest species in existence, having been introduced in 1793.

Cirrhopetalum Thouarsii.—The yellow and orange-spotted flowers of this species, produced in the umbels peculiar to the genus, are very attractive and pretty, though perhaps not so showy as those of some other kinds. It is rather a widely-distributed plant from the neighbourhood of the Sunda Islands, and consequently requires ample heat and moisture while growing. This it will take well to Tree Fern stems, but if these are not obtainable, allow them a thin surface of good soil, and in small pans, suspended where they will have a good clear light without being scorched. During the time growth is active they can hardly be overwatered if potted as described, but in winter careful treatment is necessary, on the one hand to prevent shrivelling, on the other not to surfeet the roots.

Pescatoria cerina.—The pretty pale yellow blossoms of this Orchid are at all times attractive, their unusual appearance having always commented upon by those seeing them for the first time. Being of a fleshy substance they last remarkably well if kept in a fairly cool and dry atmosphere. *P. cerina* delights in a warm, shady, and moist position, but not too far from the light. During the time that the growth is most active the roots are almost aquatic in their requirements, and the absence of pseudo-bulbs or large leather foliage necessitates their being always kept moist during winter. Care in watering and a free open root-run are in fact the most essential points in its culture. It is found in the neighbourhood of Chiriqui at considerable elevation, and was introduced in 1851.

Oncidium concolor.—It is not often this charming little plant blooms in the autumn, but I have a small piece in flower, and the beautiful little clear yellow blossoms are very attractive. The plant is a native of Brazil, but being found at considerable elevation on the Organ Mountains, thrives in quite a cool house. It should be grown in small suspended pans or baskets in a mixture of peat and Moss, and must have copious supplies of moisture while growing and enough to keep the bulbs from shrivelling while at rest. It usually flowers during the spring and early summer months, and lasts a long time in good condition.—R.

Oncidium Harrisonianum.—This is a pretty and very free-blooming little Oncid, often flower-

ing twice in the year. The pseudo-bulbs are small, grey-green, and the flower-spikes, rising to the height of about 1 foot, are terminated by a corymb of little yellow blossoms spotted with purple. Grown in small pots in a light position in the Cattleya house it will usually be satisfactory, but like all small growing kinds, a little more care is necessary in its culture than with the larger growing members of the genus. It should be potted in equal parts of peat and Moss over good drainage and carefully watered during the winter months. It is a native of Brazil, and first flowered in the collection of Mrs. Harrison, of Liverpool, in honour of whom it was named by Lindley in 1832, about two years after its introduction.

Odontoglossum grande superbum.—This beautiful form of the species is now in bloom. The lip is almost pure white, with purple-brown stripes, the sepals highly coloured and broad. It makes a pretty show when well flowered, and associated with some of the finer Ferns is really charming. One of the grandest of the best species for growing with Ferns, or in any moist intermediate house not devoted entirely to Orchids. With careful attention to watering and a rough and open medium for the roots, no difficulty will be found in its culture.

Eria obesa.—None of the Erias can be classed as popular plants; in fact, but few of them are grown outside botanical collections. Perhaps this is as pretty a species as any, and it is certainly the best to flower with which I am acquainted. Many people grow the Erias too liberally, the consequence being that they never bloom; but grow them fairly well until the bulbs are plumped up, and afterwards keep them well on the dry side for a month or two, and flowers will usually appear. In the present species these are white, tinged with rosy pink, and occur on twin-flowered spikes. It is a native of the Malay peninsula, and was sent home in 1863.—R.

VANDA KIMBALLIANA.

It is questionable whether there is a more popular species the whole of this genus than that this lovely little Orchid, and the reasons of its popularity are not far to seek. In the first place it is easily cultivated, it will become very cheap and easy to propagate while its beauty cannot but be admitted by all. In habit it somewhat resembles *V. Amesiana*, but the leaves are larger and not so stiff looking, drooping, and reach upwards of a foot long. The flower-spikes are a little longer than the leaves, bearing several blossoms. The sepals and petals of which are pure white, the lip spreading, of a pretty amethyst-purple in front, the sides lobes spotted yellow. Though a native of Burmah, the Cattleya house is warm enough for it, where it ought not to be closely shaded or allowed to be scorched by bright sunshine. At all times keep up a nice moist atmosphere, this being much more easily managed in a large spacious house than small and narrow structures. The plants do best in small baskets suspended at a little distance from the glass, all that is required in the way of compost being pure clean Sphagnum Moss and charcoal over abundant drainage. If good imported pieces can be obtained, they are easily and readily established by hanging them up or laying them out on the stage in a slightly warmer house, but the plants frequently offered are so small, that even with the most careful treatment some percentage of losses is certain. The stems of such plants ought never to be cut, as is sometimes done for convenience in basketing. This cutting is all very well with healthy plants, but it must not be done right, as that these newly-imported plants are often in a state of almost total collapse, and to again cut them will still further weaken them. They are lanky in appearance, put them up in clean crocks and leave them for a month until they commence to push aerial roots. Then at the next potting time they can be cut below these and no great check will be caused, because the

roots left carry the plant safely over the trouble. When well established and furnished with plenty of young healthy roots the Sphagnum Moss may with advantage be allowed to grow rather freely around the stem, thus holding a good supply of moisture and being distasteful to thrips and red spider. The best time for rebasketing or potting established plants is in the early spring months, they having then all the best of the growing season in front of them. The roots are fairly persistent and most on this account be disturbed as little as possible. Low Kimballiana first flowered with Messrs. Lowe of Clapton in 1889.

Masdevallia Roezlii.—This is one of the best of the Chimera section and a most remarkable plant. The sepals are broad at the base, brownish purple, elongated into tail-like processes of a deep black-brown. The flowers appear singly on the scapes, but if these are removed carefully without damaging the stem, others are necessarily produced, plants by this means keeping in bloom for many months. The plants thrive well in shallow baskets suspended from the roof, a few large pieces of charcoal being laid on the rods at some distance apart to allow the pendant scapes to descend freely. The plants must be heavily shaded in summer and freely watered while in growth. M. Roezlii is a native of Colombia and was introduced in 1880.

Houlletia Brocklehurstiana.—The prettily spotted flowers of this Orchid are very attractive, and probably it is the best in the genus. Strong spikes bear upwards of a dozen flowers, brown in the sepals, spotted with yellow and purple, the colours varying considerably in the different forms. The plants may be grown in pots or baskets in a compost of equal parts of peat and Moss and good drainage must be given, but little growing space is required, the plants requiring liberal supplies of moisture throughout the year and in the atmosphere, but when at rest a considerable reduction must be made. It thrives at the cool end of the Cattleya house or with the Mexican section of Leslie. It is a native of Brazil and was introduced in 1841.

Cattleya Gaskelliana.—A few small plants of this Cattleya are still to be had when the flowers are extremely useful. Parthen. C. Gaskelliana comes nearer than any other kind to the old labiate, but of course is quite distinct in its single sheath and also to certain extent in habit. The form now flowering has sepals and petals of a bright warm rose, the lip similar in ground colour and having a purple crimson blotch in front of the golden yellow throat. Ordinary Cattleya house treatment is suitable for it, the flowers being produced at the apex of the young growth and not after resting, as in C. Mossiae.

Cattleya maxima.—This pretty and useful species is not so constant as some others in its time of flowering. The colour varies considerably, the typical flower being very pale rose when first open, this soon changing to a much deeper tint. The lip is broad, lighter in colour than the sepals and petals, prettily marked with crimson, purple and yellow. The pseudo-bulbs grow upwards of 1 foot in height when the plants are strong, each bearing a single leaf, from the base of which proceed the bloom-spikes, each carrying four or five flowers. It is one of the easiest of Cattleyas to cultivate, and it is remarkable that it is not more frequently seen. It does well in fairly large well-drained pots, the compost being used in a rough open condition. Plenty of water is needed while growing, and during the resting period it must not be much dried. The darker forms of this species, usually termed peruviana, are generally shorter in the pseudo-bulbs. There is also a pretty variety called apollina, which has a purple about the lip, and alba, which lacks the rosy suffusion on the sepals and petals, but is certainly not pure white, as the name would imply. The specific name of this Cattleya is singularly inappropriate, for even in 1844, the date of its introduction, there were larger ones in cultivation. It is a native of Colombia and Guayaquil.

THE VILLA BORSIG, BERLIN.

In Berlin, as in other large towns, space is valuable, and large private gardens in the town itself can only be afforded by the wealthy classes. The villa garden of M. Borsig, though little more than about 6 English acres in extent, has long been famous and is certainly one of the best private gardens in Berlin. The owner possesses a large park of nearly 200 acres at his country residence, some twenty miles away, but as the family reside in town for a considerable time, the grounds of this villa garden are made as attractive as possible.

Entering the grounds at the lodge, which marks the main entrance from the broad street known as Alt-Moabit, a broad carriage drive

cool-house flowers, and consisting of hundreds of plants plunged in their pots or tubs and arranged to form an effective display. Several of these would stand an ordinary English winter, but winter in Germany is quite another matter, and Aucubas, Laurels, &c., must there be treated as greenhouse plants. The barks contain, among others, Dracennas, Rhododendrons, Indian Azaleas, Aucubas, Myrtles, several New Holland plants, and large Bay Trees in tubs.

Adjoining the villa are large conservatories, a walk through which leads to the great Palm house, about 150 feet in length, and containing magnificent specimens of Palms and other exotics. The side walls are covered with tufa, overgrown by *Ficus repens*, *Tradescantia*,

Plane tree has a branch-spread of over 90 feet. Close by are groups of conifers artistically arranged, and showing no stiff line of demarcation. In a shady part of the grounds are groups of Palms and other sub-tropical plants. Very effective, too, is a group of Tree Ferns, consisting mostly of good specimens of *Dicksonia antarctica*. A pergola in the Italian style covered by Ivy and Virginian Creeper stretches around that portion of the grounds which abuts on the river Spree.

One of the most picturesque features of the grounds is an irregular pond about 150 yards in length. The irregular recesses of projections of the shore line are partly covered by *Funkias*, *Heuchera*, *Iris*, *Podophyllum*, *Rodgersia*, &c., but the most interesting plants are those growing in the pond itself. These include *Maria's Water Lilies*, also the deep blue *Nymphaea zanzibarensis*, and last, but not least,

Nelumbium speciosum,

growing in the open air. This handsome Water Lily—which is also known as the Pythagorean Bean—is one of the many plants that lay the somewhat doubtful claim to the honour of being the sacred Lotus of the ancients, of which Homer and other poets have sung the praises. But, doubtful as this claim may be, no doubt can exist about the beauty of this stately aquatic. I have seen handsome specimens in the Victoria Regia house in the Botanic Gardens of Regent's Park and also at Kew; but great was my surprise when visiting Berlin last July to find *Nelumbium speciosum* flourishing luxuriantly out of doors in this villa garden. I am indebted to M. Weidlich, head gardener at the Villa Borsig, for the handsome photograph from which the accompanying illustration was prepared. The pond is fed by a streamlet which has previously passed through M. Borsig's great manufactory of locomotive and other engines. The continual discharge of steam into this streamlet raises the temperature of the water to such a degree, that it very seldom freezes, not even when the thermometer is below zero, and this accounts for the luxuriance of the *Nelumbium*, which dies down in winter and reappears every spring without having any protection.

As already mentioned, the same pond

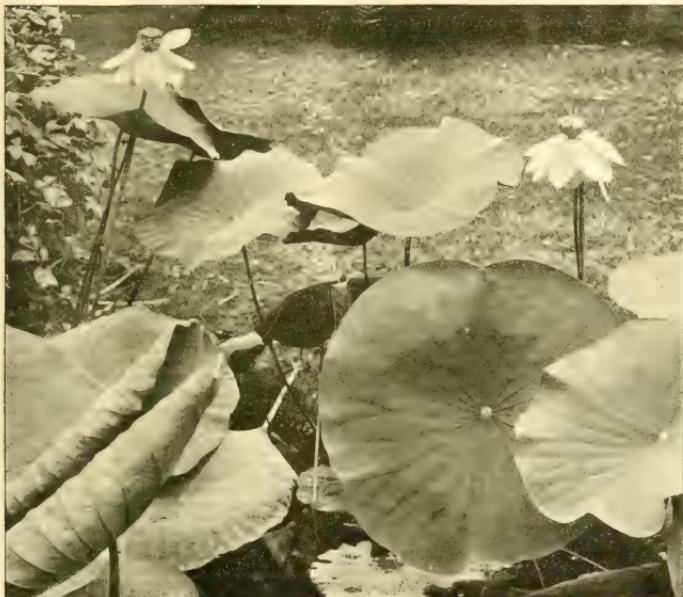
is filled with a large number of the deep blue *Nymphaea zanzibarensis*, a well-known water plant. This also

flourishes remarkably well, but as the

plants do not die down, they are re-

moved to warmer quarters during the winter months.

Nelumbium speciosum has its native home among the slow streams and pools of Southern Asia. The orbicular peltate leaves are each often from 18 inches to 2 feet in diameter. If the upper surface of the leaf is sprinkled with water it will run off like globules of quicksilver. The margins of the leaf are slightly undulated and the petioles rise from 2 feet to 3 feet out of the water. The flowers, which rise well above the leaves, emit a delightful fragrance, and are each 10 inches or even 12 inches in diameter. The colour is a delicate rose pink, and the petals as well as the numerous stamens spring from the base of a comparatively very large inverted cone-shaped receptacle reminding one of a Poppy head. Probably this handsome species of Water Lily has a great future before it as a decorative plant



Nelumbium speciosum in the gardens of the Villa Borsig, Berlin. From a photograph sent by Mr. F. W. Meyer, Exeter.

leads in a bold curve to the mansion. The lawn traversed by this drive is exceedingly well kept and of that luxuriant verdure which, during a dry season like that of last summer, betokens tender care. Scattered on the lawn between the mansion and the main street are enormous trees irregularly grouped, and including very fine specimens of *Plane*, *Ash*, *Elm*, *Oak*, &c., with delightfully cool and shady walks beneath their boughs. Here and there is an undergrowth of *Philadelphus*, *Spiraea*, *Yew*, *Deutzia*, *Ribes*, &c. Tasteful flower beds adorn the front of the villa, and the broad stone steps leading to the main entrance are literally aglow with a profusion of flowers, principally *Geraniums*, in large pots. On each side are large banks formed by

cantia, *Ferns*, &c. A staircase, entwined with creepers, leads to an upper gallery, from which an excellent view of the whole interior may be obtained. On quitting the Palm house the other side of the mansion is reached, and in front of this the largest and prettiest part of the pleasure grounds is seen. The flower garden—of which an admirable view is obtained from a spacious loggia with fresco-covered walls—contains a fountain and tastefully arranged beds bright with flowers. The remainder of the pleasure ground is laid out in the irregular style, and contains many charming features. There are huge *Lime* trees, fine old *Oaks*, and good specimens of *Taxodium distichum*. A handsome tree of *Magnolia macrocarpa* is quite 60 feet in height, and a gigantic

for the ponds of English gardens, especially in the southern and western districts. As it dies down in winter it would probably be hardy in Cornwall and other places where Arum Lilies can successfully be grown out of doors. It certainly would be a bold and conspicuous object to introduce say among Marliac's Nymphaeas or other aquatics, and after being once established would probably take care of itself. It would be interesting to note whether other readers of THE GARDEN have tried to acclimate this noble exotic, and with what results.

Not far from the pond mentioned is a handsome bed filled entirely with *Himantophyllums*, which were looking remarkably well, and close by, a shady path leads to another part of the grounds which contains a number of glasshouses filled with Orchids and choice stove plants. M. Weidlich, the head gardener, has been very successful in hybridising. He has raised a large number of very distinct Bertoloniæ, also some fourteen or fifteen distinct varieties of Sonerilæ. These novelties are mostly named after members of the Borsig family. The stove houses also contain some forty or fifty Bromeliads of many different types and magnificent specimens of *Nepenthes Mastersiana superba* and other Pitcher plants. Of Orchids I noted several *Anectochilus*, *Phaius Humboldtii*, *Cypripedium Roezlii*, *C. Chamberlainianum*, *C. renanum superbum*, and a whole host of other good things too numerous to mention.

Ex-male, Exeter.

F. W. MEYER.

FLOWER GARDEN.

MICHAELMAS DAISIES.

A GARDENER in his own garden lately told me that he thought nothing of Michaelmas Daisies. Two years ago he had bought the "Conference Set," certified true to name, and they had quite disappointed him; they were nearly all alike, and so, in fact, they were under the circumstances. They had all been planted, fifty or more, in rich loam about 2 feet apart in a row. They had been left to struggle with distorted stalks down on the ground till nearly the beginning of September, when they showed signs of flowering; then a stake was put to each and the prostrate stems were collected and tied tightly to it, the budded shoots, which had been uppermost as they lay, being now mostly smothered inside the sheaf, and the whole exhibition—all nearly alike, as the exhibitor said—was a caution to anyone not to grow Michaelmas Daisies. But there are other ways of growing them by which they may be made more attractive.

The best way to deal with those of moderate height and good habit is not to tie them at all, and the best place for growing them is the margin of a sheltered shrubbery where they can have plenty of room. They should be nearly twice their own height from one another, so that the outer stalks can drop nearly to the ground without crossing the branches of their neighbour, and they then not only flower outside and inside each branch, but show their flowers to the best advantage. This is, in theory, the best way to grow these perennial Asters, but in practice there are many difficulties. Comparatively few gardens have the suitable sheltered range. Some Asters are so tall and top-heavy, that the weight of the flowers after a shower will break them off at the base, and some with pliable stems bend over in such a way as to hide their heads on the soil. Where it is necessary to tie up Asters—and in my garden, for one, it is necessary—it must be done with judgment—loosely and not formally, so as to

allow all sides of the branches to develop their flowers. If several iron pins, which need not be long or conspicuous, are used for each large plant, a few plants may be made to cover a large area and to give so much gaiety of colour to a mixed border, that one wonders where there was room for the other flowers before these came out.

The best display of Michaelmas Daisies I have, and I may say without boasting have ever seen, is upon a boundary row of hurdles, 4 feet high and 50 or more yards long; the Asters grow through these, and the branches can be spread and tied to the bars as occasion requires. It must be remembered in suggesting a boundary fence for this purpose that cattle show a remarkable fondness for Aster flowers, and that it is surprising what a long stretch horses can make to get at them. But there are many positions in which a wooden espalier to serve the same purpose as hurdles may easily be run up. The Asters should be about the same height, say 5 feet, so as to show a good row of flowers over the top.

As for the kinds of Asters to be recommended, I am not going to commit myself by giving a list of names, half or more of which when obtained from a nursery would not be of the variety intended, for spite of the laborious work of the conference there is still a lamentable want of uniformity and constancy about nurserymen's names. In the first place, those who wish to get a collection of Michaelmas Daisies should visit nurseries where a good collection is grown and make their choice whilst the plants are in flower. They may then disregard names. Height, colour, and time of flowering, which may be learnt in this way, are of more consequence to the amateur than names. I have several times expressed an opinion in these pages that Michaelmas Daisies ought to be what that name denotes, and be in their prime about Michaelmas. Many included under the name are too early or too late, however good they may be in themselves. It is also desirable that when intended to make a good display side by side they should be of similar habit of growth. For instance, the choicest of Asters, *A. Amellus*, should not be mixed up with varieties of *Noeve-Anglie* and *Novi-Belgii*, excellent as it is for masses in the mixed border. Dwarf kinds of less than 2 feet high get smothered or obscured if grown amongst plants with an average of 5 feet. All these plants should be grown where they can be seen down to the ground or nearly so. Drooping side shoots filled with flowers are a great addition to ornamental qualities, and of some, like J. W. Grant, it is the chief merit that they bear horizontal branches down to the soil.

The ordinary Michaelmas Daisy looks far better when grown in less fertile soil than when in highly manured loam, which gives thick stems and distorted growth and too much leaf for the flowers. It must be found by experience what kinds like shade, of which the cordifolius section is an example, and what (as *Amellus*) delight in full sun. The *Amellus* varieties, too, dislike frequent division, and do well for ten years or more in one spot with an occasional top-dressing, whilst other kinds, of the laevigata class, seem as if they could not be divided too frequently for their welfare. Of course, in this case several shoots may be planted in a clump at reasonable intervals. As for arrangements according to colour, I never give advice about this, besides, I do not believe in it. An artist lately in my garden was complimenting me on the successful arrangement of the colours in my mixed borders, which was, as I told him, the

result of mere accident; whilst I have known the most studied disposals of colours result in utter failure. But, as I have said before, height and time of flowering must not be neglected in planting. There are too tall Michaelmas Daisies than too dwarf, and dwarf kinds may be used with excellent effect near the front of mixed borders, where tall kinds would be untidy. In winter we have every height from 7 feet to 7 inches, and the flowering extends over a long period. The dwarfest of all—excellent as it is for edging, called at the conference *versicolor nanus*—is too late in most seasons, and does not complete its flowering before hard frosts spoil it. Good blues are still a desideratum. *A. spectabilis* and *Archer-Hind*, two of the nearest approaches to blue are respectively too early and too late. By raising *Amellus* from seed, some individuals are far nearer true blue than others, but it is slow work getting up a stock from a seedling of *Amellus*. I may remark in passing that different lights make a wonderful difference in the shades of blue in Asters. An hour or two after sunrise or before sunset shows them to the best advantage. Sometimes in passing a bed of seedlings I make a set at one which looks sky-blue and mark it, and wonder how I could have overlooked it before, but the next day the same flower in full sun shows that objectionable and variable red-purple tint commonly described as mauve. All who observe Asters must have noticed these variations.

The seeding of Asters in the autumn of 1895 was so profuse, that the seedlings have caused extra weeding to be required. I had so many seedlings from previous sowings, that I have allowed none of last year's seed to grow, but no doubt the season will result in the raising of some good novelties. Whilst on the subject of seedlings, it should be observed that seedlings should be carefully cleared every summer from the crowns of established clumps of Asters, otherwise they grow up and become hopelessly mixed at the roots, and in two or three years a worthless seedling supersedes a choice variety.

C. W. DON.

Edge Hall, Malpas.

The Anagallis as a dry weather annual.—There are several varieties of what is known as the larger-flowered *Anagallis grandiflora*, and all of them are charming hardy annuals, standing the dry weather admirably. Mr. J. Huds. n. has in the gardens of Gunnersbury House lines of the blue form, the blossoms of a lovely tint of rich blue, and the plants, blooming freely at all times, go on flowering until destroyed by frost. Other varieties are carnea, flesh-coloured; coccinea or Brewer, scarlet; Eugenii, light blue and white; and Napoleon III., crimson, very fine. Time was when the *Anagallis* was to be found in most gardens, but of late years it has been thrust out in the severe competition with newer introductions. But the blue and the crimson are so fine and so useful, especially so in dry weather, that they will always have a hold upon the affections of some. Practically they are half-hardy perennials, but should be treated as half-hardy annuals, and they will be found to well repay any trouble taken with them. —R. D.

Carnation Ruby Castle.—It seems strange that such a free and perpetual summer-flowering kind should have acted in the manner complained of by "R. P. S." (page 236). As a rule it is one of the most profuse bloomers of the border section. I have never known the variety to behave in the way "R. P. S." plants have, although I have now grown it for several years. There are two Carnations almost identical both in point of colour and habit of growth; the only difference I can see in them is that one bursts its calyx, the other does not, and the pod-burster has the

larger flowers. The name of the second variety is, I believe, Mr. W. P. Milner. A few years since a batch of seedlings was raised by Mr. Chalmers, gardener at the time at Orchardleigh, near Frome, and among them was a plant of that now well-known Rabby Castle. The stock was kept by Mr. Chalmers for some time, so highly was it valued. The late Mr. Pratt was favoured with some cuttings from which he soon worked up a large batch at Longleat, and it became known in those gardens and in the neighbourhood as Longleat Favourite. Its reputation became such that few gardeners in the neighbourhood were satisfied until they had at least a few plants, and visitors were equally struck with its several good qualities and secured cuttings. There was no other Carnation grown in such numbers within a large radius, and certainly none on which so high a value was bestowed. It invariably gives a succession of blooms until stopped by frost in the autumn. Those who require a quantity of flowers of one colour ought to grow this Carnation. It has an excellent habit and constitution, and can be raised freely from cuttings.—W. S., *Willts.*

WILD GARDEN PLANTING.

I HAVE a cottage garden here with a few acres of ground where I spend my time when I can get away from London. I am anxious at present to plant a large number of Narcissi, Snowdrops, &c., in a small meadow. Can it be done with a dibble, or should the turf be taken off and if so, should the soil beneath be turned, or is it enough to lay the dibbles in the top and replace the turf? The question sounds perhaps elementary, but I have found before now that bulbs inserted in grass do not always grow. Similarly with climbers to run up trees, I find that they not unfrequently (even when strong growing Roses like Dundee Rambler) pine away and fail to start, possibly from being too much in shade. On the other hand, it is not convenient to plant them beyond the spread of the branches. May I ask what is your own practice in the matter?—E. X.

* * * We usually plant Narcissi in grass by turning back the sod, making two cuts at right angles, and then pressing up and back the sod, laying it back on a hinge, as it were. We put in a few bulbs mostly round the sides of the hole and simply turn the sod back and tread firmly upon it. The question is largely one of convenience and the ground one has to plant. If one could carefully improve the bottom it would be better for some soils, no doubt, but if the work is done in a bold way and there is much other planting going on, it is not easy to get time to plant things in the grass with care. Sometimes in breaking ground or carrying out changes one gets a chance of throwing in some bulbs before the surface is levelled up. Once in planting Grape Hyacinths in an uneven grassy slope we placed them on the turf in the hollows and then levelled up with earth, and both grass and bulbs soon came through. Once some bullocks passed an evening where they "didn't ought to" in a grassy enclosure near the house, and as their impressions were too many in one spot, they suggested group of the Alpine Windflower. A few of its roots were put in and the holes filled up. A wily man will use odd ways now and then and change a little the odds about style of work. The French writer : "All ways are good except the stupid one." When making buildings and banks for the only true field fence—a live one—is a very good time to put in a Sweet Briar, white Clematis, or anything we have to spare in the bank. In certain soils seeds may be sown by times—seeds of Foxglove, Evening Primrose, and stout biennials. Fragile bulbs will want more care and less depth than the bolder Narcissi. Man's ways are good, though far more important than any way of planting is thought to be to the wants of the thing we plant, not only as to soil, but association with the things that will grow about it in grass, in hedgerows and rough places, for plants are not all garotters like the great

Japanese Knotworts and the big Moon Daisies; and little ducks must not be set among barn rats.

In putting climbers round trees it is better to plant towards the outside of the tree. Some people fail with the white Clematis, but we have not had any trouble, planting against outer branches of Yews or other trees, and protecting the stem by just putting a tall stake to support it against the tree for a few years.—E.B.

GALEGA OFFICINALIS.

This handsome perennial and its still more striking white variety have this year been very fine. Associated with red and cerise Phloxes or with the vivid vermilion of the tall *Lychnis chalcedonica*, the white Galega affords an admirable contrast in form as well as colour. Here in deep, rich soil, in close proximity to water, the plants attain a height of almost 6 feet, but during the present summer I have seen many specimens that the drought has dwarfed to less than 2 feet. The severe and long-continued frost of last year had



Galega officinalis alba.

a weakening effect on the Galegas, and, in consequence, their display during the summer of 1895 was a very meagre one; this year, however, they are as vigorous and free flowering as ever, and are as effective among the strong-growing occupants of the wild garden in the border. For indoor decoration the white Galega is in great request, and arranged with the dainty flower-lace of *Gypsophila paniculata* is exceedingly ornamental. The culture of the common Goat's Rue, the English name for the Galega, is of the simplest, it being very accommodating in the matter of soil, provided this be of sufficient depth to retain a certain amount of moisture during prolonged drought. It is advisable to cover the roots with a mulch of leaf-mould or ashes as a protection against severe frosts. Staking should be commenced early, when the growths arrange themselves naturally around their supports; whereas if this necessary operation be delayed too long, the plant assumes a bunched-up appearance that entirely destroys its naturally graceful aspect.

Torquay.

S. W. F.

NOTES FROM TERLING PLACE, ESSEX.

A HURRIED look round the charming old gardens at Terling Place, Lord Rayleigh's seat in Essex, revealed many things of great interest to the lover of hardy plants, which were here planted in broad masses, the only true way in which the value of such things can be seen. Time would not allow of extensive note-taking, or indeed of taking more than a cursory glance at many things which would have repaid closer examination. In the swanery and bog garden were fine groups of various Spiraea, including *S. palmata* and *S. Aruncus*, *Osmunda regalis* and many other Ferns. The variegated form of *Cornus mas* was very striking, it being one of the few variegated plants which are of real value in the landscape, and above all some groups of the Swamp Rose (*Rosa carolina*), full of flower and buds, showing the plant in its true character, such as is never shown by single plants dotted about here and there. The Swamp Lily and many other good things were enjoying their proximity to the water. This water garden would be an ideal place in which to grow the newer and brilliant coloured Water Lilies, which would give a perfect finish to a charming spot.

Large groups of the broad-leaved Saxifrages (*Megasea*) adorned the shrubberies, which also contained fine specimens of *Spiraea arborescens* and *prunifolia* fl.—pl., *Golden Yews*, *Prunus Pissardii*, *Bixa orientalis aurea*, *Thuja occidentalis Verlaeana*, and the best coloured young specimen of *Cedrus atlantica glauca* I have yet seen. Lilies, too, were in great plenty and variety, and masses of *Funkia ovata* were common and well flowered. On an elevated border by the mansion were big bushes of *Clerodendron trichotomum*, which had to my surprise escaped the severe winter of 1894-95, and on the slope of a steep and high grassy bank, where the grass was perfectly brown owing to the recent drought, plants of the Flag Iris were flowering freely. A fine high terrace faces the mansion about 100 yards away, and as the background to this, some excellent planting has been done many years ago. These trees, which contain among others some good Cedars, are very effective when seen from a distance, the outline of the terracing being hidden by some judicious planting in the foreground, thus giving to the trees an effective semblance of great height. The soil in this neighbourhood must be excellent, as instanced by the tree growth all round, and at the time of my visit the leafage on Oak, Elm, Ash, Hazel and other native trees was many shades darker and of better texture than any I had seen elsewhere during the summer.

J. C. TALLACK.

Seedling Pentstemons.—Now that such charming varieties and handsome downy spikes as can be obtained by growing these plants as annuals, it hardly seems necessary to go to the trouble of keeping a collection of named varieties. Early in March this year I sowed a packet of seed in gentle heat in sandy soil. The seed quickly germinated and the plants grew fast under cool treatment. Planted in a bed early, they grew vigorously with but little attention, and have given a full crop of bloom, some of the spikes 2 feet long and embracing a great variety of colour. Individually the bells on each plant are of good form, while the tint and variety in colours are most pleasing. The prospect of flowering being produced right into the autumn is most encouraging. I shall not go to the trouble of retaining a stock of named varieties when such an extensive selection of colours and forms can be had from seedling plants.—E. M.

Violets.—I quite agree with Mr. Burrell (p. 238) that these have given more than ordinary trouble this season, and the double sorts are not nearly so good as usual owing to the hot and dry summer. Mr. Burrell advises fresh horse manure as a mulching, and finds it stimulates growth after a thorough soaking of water. The latter, I think, is very important advice. Manure fresh from the stables is in bright weather sometimes

very treacherous among tender foliated plants, and requires to be watered as soon as it is spread around the plants. My Violets were mulched with short grass from the lawn mower as often as it was required to keep up a fairly good thickness, and with an occasional watering they made a steady growth free from the dreaded spider, which commits such havoc once it gets a footing. It has been a favourable time for getting the plants into their winter quarters, showers being so frequent that they scarcely felt the removal from the open ground to the frames and pits, and I never had any trouble with them. The roots when taken up were found to be in a particularly active state, as, indeed, is everything since the change of the weather. There is a wonderful change in the growth of single Violets in the open since the rain; plants have apparently almost doubled their size, and now the flowers are coming freely, large and of good colour. Large quantities of the earlier blooms were small, badly coloured, and of no value when gathered.—W. S. WILLS.

Heliotropes.—I grow Swanley Giant extensively and consider it the best variety for outdoor culture, trusses of bloom 15 inches in diameter being not unusual. I plant a thick carpet of Harrison's Musk and dot the Heliotropes all over the surface about 18 inches apart. Among these I plant berg and there a part. Amongon the Cambodensis, Abutilon Thompsoni, a few corms of Gladiolus brenchleyensis and a few bulbs of Hyacinthus canaliculatus. The combined variety produces a pleasing effect in a long bed. The fragrance from the Heliotrope and Musk never fails to please, especially in the morning and evening.—E. M.

FLOWER GARDEN NOTES.

SEPTEMBER and the early part of October witness many of the taller herbaceous plants at their best, and a rather close inspection should be made at the present time with the view to make any alteration later in the season that may be deemed advisable and to strengthen any specially good things. In the latter direction it is gratifying to know that the block system of planting, i.e., each variety in sufficient quantity to show it off to advantage, is rapidly gaining ground. With the best intentions, however, very few are able to fill a herbaceous border altogether to their liking. After the first attempt, a border that is of large size in which there is great variety. Plants require to be seen together to form a correct idea of the most effective contrasts alike in colour and size, and a little alteration is therefore often necessary. When beds of average size can be spared for particular families, alterations are not often necessary. The first planting may be regarded as a permanent affair until it is found advisable to thoroughly remodel the bed. As yellow is the predominating shade at this season among the taller plants, Starworts and Chrysanthemum maximum, leucanthemum with their varieties, also uliginosum, may be introduced in sufficient quantity to give the necessary variety in colour, whilst among mid-border plants of the present season are Statice, Senecio pulcher, early flowering Chrysanthemums, Starworts of medium height and the Japanese Anemones. Of the last there are three distinct shades in japonica and vars. alba and elegans. The type varies in shade in different seasons and on different soils; this year it is very vigorous and deeply coloured. It must be remembered that nearly the whole family of Sunflowers is more or less yellow, varying, that is, between primrose and orange, with the exception of Echinacea purpurea and Helianthus strumifer. Before quitting the subject of the next border, I should like to point out that one of the most important points to be considered either in the first planting or in after reconstruction is to group the plants of different seasons well together, so that there is no long stretch of the border absolutely without flower at any one time right away from spring to the middle of autumn. As pointed out

above, most of the taller or back border plants are late flowering, and the introduction of some of the taller Phloxes and Delphiniums will therefore be found advisable.

CARNATIONS.—Ever since the break up of the hot weather, about the middle of August, we have had a showery time, and it has brought the Carnations on apace, so that at the time of writing (Sept. 14) the layers are well rooted and ready for planting—a very acceptable state of things, as the plants will get well established before winter. Even sorts with tough wiry grass that usually want a longer season before the severance from the parent plant are quite ready. The demand for cut bloom of these favourite flowers is so steady on the increase, that I am devoting a south-west border some 50 yards by 2 yards to their special benefit, and hope to meet it by the end of the week. In which I have found nothing better than good forms of Crimson Clove, which is perfectly hardy, a thoroughly good flower, powerfully scented, and a mile away from the objectionable musk. In tinted flowers, in addition to Countess of Paris a few Lady Nina Balfour are on trial; in pinks and those of a somewhat similar shade, Crombie's Pink and Sadek, in addition to Ketton Rose, in scarlets, Hayes' Scarlet and King Arthur, besides Murillo. This last is rather dull, but wonderfully free, quite hardy, and a very fair flower, so I have hesitated about discarding it until experience decides whether the other two named possess all the qualifications essential in a good border variety. In the yellows I grow Carolus Duran and The Pasha, with a few Mrs. R. Hole, also Sir Beauchamp Seymour, Goldfiner, and Mrs. A. Campbell. For a dark variety I shall rely on Uriah Pike. The various forms of Crimson Clove are so susceptible to disease, that no dependence can be placed on them, and Mephisto, unfortunately, has only a very faint scent. This is to be regretted, as the flower is good and the plants both hardy and free. A good batch of Ruby Castle will be added; the variety is valuable for its lateness. When lifting is in progress I shall set aside a few of the strongest layers of those sorts that are most acceptable for cutting and put them into 5-inch or 6-inch pots as the nature of the roots may demand, using a compost of three parts turfy loam and one part of dry horse droppings, the latter well rubbed to pieces and thoroughly incorporated with the soil.

LATE SUMMER FLOWERS.—Bright and effective beds are obtainable at this season with the aid of a combination of hardy and half-hardy flowers, the beauty of the things is decided on the want. Such bed looking well is the result of a carpet of Mrs. Bell's Baby round big clumps of Sedum spectabile. The succulent is in itself a little stiff and formal, but looks well standing out from the carpet, and Mrs. Bellman is still flowering well; it has lasted, I suppose, five months. It is an apt illustration of what may be done with the best of sorts. Tufted Pansies even in a dry time, given a well-prepared bed, a good surface mulching and the prompt removal of dead flowers. Referring to the rather stiff habit of the Sedum reminds me of the formal combination of Aster Amellus and Chrysanthemum Desrango. Let me recommend, in lieu of the latter, *Anemone japonica* or *A. j. elegans*. The graceful habit of the Japanese Windflower is just what is required to relieve the formality of the Starwort. A combination, that for the greater part of the summer has been altogether foliage, is now brightened by spikes of scarlet flowers. I refer to the association of Lobelia fulgens with the silvery Centaurea. The latter is very nearly hardy, and would pull through a winter like that of 1895-96 outside in a fairly sheltered spot. One of the most enduring plants of the present season has been Achillea millefolia The Pearl. Like all members of the family, it stands the dry weather well and flowers until the advent of frost. I planted it in a long border, and a few *Fuchsias gracilis*, pegged a bit to keep it a little within bounds, and it forms a very pleasing contrast to the old-fashioned Fuchsias. A grand plant for large borders is the latter, graceful in habit and covered

with long, slender blooms. Begonias are at the present time better than I have had them all through the season; the rain has helped them wonderfully. What to associate with the large-flowered varieties is always a subject for consideration. I think there can be nothing better than Pentstemons. Coming rather late into flower and lasting out well, their spikes stand above the Begonias and relieve the somewhat heavy appearance of the latter. Like the Begonias, Dahlias have grown away wonderfully since the first heavy rain, and are likely to last out well if frost does not come. In the case of large beds it may be well to consider the advisability of making provision for a little protection if necessary, especially in the case of the Cactus and deodarca type. They furnish a very welcome supply of late flowers.

E. BURRELL.

Clearemont.

Geranium Endresi.—Among the hardy Geranums this is always neat and attractive. Though flowering quite freely throughout the summer the plant fails to make a fresh start since the rain came, and has now many of its pretty blossoms on plants a little more than 15 inches high.

Tropaeolum tuberosum.—Recently I saw this thriving beautifully in a not too favourable situation at Boyce House, near Amritser. It was growing along with pale Aster and other tall-growing plants, and had taken advantage of these by climbing up some of the stems as well as a few spray stakes placed for it to climb over against a wall.—DORSET.

Doronicum dyngii.—For some years I have grown Doronicum Harpur-Crewe with great success, the plants increasing in size from year to year. Two years ago I planted in the same soil and side by side with it the variety called austriacum. It equalled the former variety in vigour of growth and freedom of flowering for the first season, but has since then gradually dwindled away a plant at a time, until now I have not a single one left. Will our reader of THE GARDEN kindly inform me if this is a common occurrence with D. austriacum? I should not have been so surprised at its sudden failure had the soil and situation been different.—J. CRAWFORD.

Michaelmas Daisies as pot plants.—By striking cuttings of some of the most suitable varieties in spring, capillary, dwarf and free-flowering plants can be had in September. Mr. Hudson adopted this plan at Gunnersbury House Gardens this season, rootting the cuttings in a frame and then placing them in 6-inch pots, two and three in a pot, and plunging them in the open ground. Mr. Hudson's object in doing this was to find a succession to the summer-flowering Aster, which are very gay while fine weather lasts, but which have gone down sadly under the late heavy rains. Then the perennial types will go out to take their places, and with the weather at all open will be gay for a considerable time. But plants struck in this way are charming in pots, as can be seen in Mr. Hudson's plant houses. Some knowledge of the species and varieties is necessary, and the dwarf-growing forms certainly make the best pot plants.—R. D.

Single Carnations.—Could these be improved as suggested, so that we had them in large and finely coloured flowers, it would be a great recommendation that they would seed freely and so be easily propagated. It is a matter for surprise that the beautiful single fringed edged forms of *Dianthus plumarius* that can be obtained from seedsmen are not much more widely grown. I am certain that were they found in gardens they would be highly favoured. There is a strain named Pheasant's-eye with a darker blotch in the centre of white or pink flowers, and which blooms most profusely, that is really charming. We have no single Carnations yet that are relatively so attractive as these single Pinks are, but if tried for by intercrossing, there can be no doubt they would soon be forthcoming. So far singles have been grown almost solely to produce "Jacks," so

called, which are sold as named varieties by hawkers. Growers of these who put out perhaps 20,000 plants each autumn seek in their selections for breeders not for improved flowers in any way, but solely for broad, attractive-looking foliage, as such plants are assumed to have a closer resemblance to Clove Carnations. But were a good batch of these singles grown—and the stock of these would be better for the purpose than single breaks from a double strain—it might be possible by selection and intercrossing in a few years to obtain some fine charming flowers. Raisers should aim to secure stout, stiff stems, moderate height, freedom of flowering, large blossoms, both smooth and fringed edged, and various colours. Allied to sweet perfume such a strain would seem freely.—A. D.

Lobelia Gerardii.—One object of this note is to ask where Lobelia Gerardii (p. 230) may be obtained; another is to say that the hardiness of *L. syphilitica* is beyond suspicion; and if it disappears from English gardens, drought, and not cold, is the probable cause. However, it is at best a third-rate plant either in its grey or its white form, but some of its hybrids with *L. cardinalis* are very good. The objection to them is that they generally behave biennials, making all their growth upwards, while others are replete with herbaceous basal leaves, and then out assumes a truly annual habit and an ornamental colour, and becomes a useful hardy plant. I have a good one of a rich violet or imperial purple colour which I bought twenty years ago under the two names of *L. violacea* and *L. Villarsii*. It does not perish of neglect and minds nothing but very dry soil, in which it dwindles away.—C. WOLLEY-DOD, Edge Hall, Malpas.

NOTES FROM NEW JERSEY.

RUDBECKIA GOLDEN GLOW.—In THE GARDEN (August 29, p. 168) Mr. C. Wolley-Dod praises highly a double-flowered Rudbeckia, but gives it no name beyond remarking that it is evidently a form of *R. laciniata*. The plant he speaks of is doubtless identical with that I have recently seen in the Short Hills nursery under the above name. There was a fine group of it in abundant blossom, and it is a brilliant and showy flower that will become popular in gardens when plentiful and better known. There is room for more distinct hardy flowers to make the garden gay in late summer and early autumn days, and this new Rudbeckia deserves a place among the most select. The doubling of the flower entirely eliminates a characteristic feature that gives to the family its popular name of Coneflower, but we gain a good garden plant of distinct beauty. This double Rudbeckia might be confounded with a double Sunflower, but its form is more graceful and its petals less stiff owing to the somewhat slender flower-stalks. Upon the group I saw there were scores of blooms in semi-dropping clusters, and there was no mistaking its value either for the garden or for cutting.

ASCLEPIAS TUBEROSA.—has been the subject of several notes in THE GARDEN this season, the hot weather experienced in England, having contributed to its perfect blooming. Several times this season I have been among the Milk-weeds where they are weeds indeed, covering great tracts of land, and most of them are coarse and poor as garden flowers. The species under notice, however, is an exception, nor have I found it very plentiful; here and there a few isolated plants by the roadside, and attractive when in flower. I have a good lot of seedlings from seed sown this year, and a few of them have flowered. Next year and for the future it will be a prominent group among the best hardy flowers in the border, as even here in its own land it deserves to be seen in the garden. To ensure its successful blooming in England during average summers, it should be planted in a sunny spot, in free, light soil.

CASSIA MARilandica.—is another fine flower that the usual English summer is barely hot enough for, but it was very showy here throughout the scorching days we had in July and August. From its

woody root-stock it sends up strong, erect shoots, that attain nearly 5 feet in height. These are clothed with elegant pinnate leaves and terminated by an immense branched panicle of clear yellow, Pea-shaped flowers, that open in succession for a month or more. Several groups on a hot southern slope appeared to enjoy the great heat. It has also seeded freely.

ACIDANTHEA BICOLOR.—This pretty bulbous plant is little known as yet. A coloured plate of it was given in THE GARDEN of May 18, 1895. It promises to be a useful flower in this country judging by what I saw of it recently in Newport. In the reserve garden at "The Breakers," Mr. Cornelius Vanderbilt's place, there was a long line of it growing with other things for the supply of cut flowers, and there were scores of spikes with flowers fully open. It is not a showy flower—in fact, it wants close inspection to see and appreciate its charms. A few of its slender spikes in a vase, however, would attract even plain flower-lovers alike by their quaint colouring and delicate fragrance. As seen, it left nothing to be desired in the way of easy growth and free blooming.

LOBELIA SYPHILITICA. deserves more attention at the hands of those who seek to fill their gardens with the best hardy flowers of all seasons. I refer to the wild type. There are scattered around in gardens several hybrids, varying somewhat in shades of purple more or less dingy and ineffective. The true wild plant as I have seen it lately along wet roadsides and in moist, grassy spots is delightful, sending up its yard-high spikes through the rank grass, and for half their length they are densely packed with blossoms, these being a pleasing shade of clear blue without a suspicion of the dull purple that mars the hybrid or other forms. It should be a good English bog plant, or a cool, moist border would be a congenial home for it, and its hardiness is undoubtedly. To praise its brilliant relative, *L. cardinalis*, that now brightens many a shaded dell here, is unnecessary. A few consider it the same as *L. fulgens* or *ignea*, best known through the varieties Queen Victoria and Firefly, but the true *L. cardinalis* differs widely and is more hardy.

Madison, N.J.

A. HERRINGTON.

Autumn Crocuses.—Mr. J. Hudson has planted out some patches of Colchicum and species of autumn Crocus in the gardens of Gunnersbury House, giving the Colchicum cool, shady spots, but the Crocuses a warm, sunny border. Though planted only in midsummer they have done very well. Among the Crocuses the beautiful speciosus is very conspicuous, and almost unrivaled for its brilliant tint of violet and its large and handsome blossoms. There are varieties of this apparently paler in colour. *C. zonatus* is a charming variety of a very delicate bluish-tinted silver shade, with a pale orange zone at the base of the corolla—an excellent companion to speciosus, flowering at the same time. I find the best way to have *C. speciosus* in good condition is to plant it and leave it alone. I have some patches of it under a west wall in a hot position, but they are now blooming successively and very finely. So long as the foliage is green in summer I keep the patches watered in dry weather; when it fades, then I withhold water. I often wonder that *C. speciosus* is not more grown.

—R. D.

Wet weather flowers.—We have heard of late of dry weather plants, all excellent; but after the recent very severe storms and beating rains it has become a question which are the best wet weather flowers. Zonal Pelargoniums, Calceolarias, Lobelias, Petunias, and generally Verbenas, with many other things are quite done. They all like plenty of warm sunshine. Petunias, however, withstand the rain well, and if the large-flowered or tuberous Begonias have been a real beaten about and dropped their big blooms, the smaller-flowered section of the family, such as *B. Northiana*, seems all the more beautiful in the showers. Then all the

fibrous-rooted forms of the semperflorens type keep their character and flower splendidly. A very effective wet weather annual, especially to produce masses of yellow, is Zinnia Haageana, which blooms profusely at a moderate height. Marigold Legion of Honour is another first-rate wet-weather plant, and is, indeed, effective in any summer weather. Tufted Pansies suffer very little relatively in rain, and any damaged flowers are soon replaced by others. Amongst climbers, the beautiful Canary Creeper seems to revel in the wet. I observed the other day that some old stunted standard Apple trees, though otherwise useless, were kept expressly to have this climber run over them in the summer, with the result that very beautiful objects were formed.—A. D.

Lilium speciosum.—The cooler weather of the past fortnight has apparently suited the various forms of this fine Lily much better than the recent heat, that made the season for *L. auratum* a very short one. In the herbaceous border the pure white *L. speciosum* Kretzner is now very fine and superior to the variety album, though not, I think, quite so vigorous. A form of album with yellow anthers occasionally appears among imported bulbs, and has a very chaste and dignified appearance, but also has a tendency to Cox. This is probably not a decorative variety, but when it has to take its chance with others in the open border. Possibly, if given more attention and suitable soil, it may be more vigorous. A hardy, vigorous and beautiful kind is *L. speciosum* Melphonium, one of the richest tinted of the tuberous set. It should be largely grown. *Corymbiflorum* I do not think worth growing, in the open at all events, for it appears to be only a monstrosity not worthy of propagation. Nor can I do much with punctatum, for though the blossoms are undoubtedly pretty, it does not seem hardy enough to rough it outside. It would be, I think, interesting if someone who has been successful with these late-blooming Lilies outside would give a few particulars of the hardiest varieties, for, apparently, their constitutions are as variable as their colours.—T.

TULIPA GREIGI.

LOOKING at the plate of this Tulip in THE GARDEN of September 19, it is high praise to say, as M. C. G. Van Tubergen has said, that "no artificial colouring, however carefully and artistically done, can in the least convey a correct idea of the glowing, flame-like colour of the grand blossoms of this Tulip." Yet those who know *Tulipa Greigi* and have seen it with its great flowers glowing in the light of the sun cannot but agree with M. Van Tubergen. His remark is especially true in the case of the yellow or yellow and scarlet varieties, for no one can hope to give us a presentment in colour which would reproduce the appearance of the flowers. Stained glass cannot hope to rival it; enamelling is dull and dim compared with it; and the colours of the palette cannot depict that glowing glossiness which is such a charm in the flower. It is well, then, that such a brilliant flower should be more widely grown now that we have recognized that the Tulip is not merely the "fop of the parterre," but one of Nature's boons to our gardens, which, used aright, is in truth a precious gift. Set free from stiff beds or lines and grown in the grass or among other flowers in the border where its bright cups rise amid the fresh green of the other plants, it gives a welcome brightness. The introduction of Greig's Tulip has been a great gain, and it is unfortunate that it increases so slowly by offsets that it cannot be propagated quickly enough to be offered at a lower price. As has been said, it is much cheaper than it once was, but unless the Dutch and other growers raise it largely from seed, it is doubtful if it will long be offered at present prices. Seed-

ling raising is a slow process, and I find that unless the seedlings are raised in boxes and grown on under glass, the percentage of losses is a very large one. Slugs are very fond of the small leaves of the seedlings, and as only one leaf is produced by each bulb, these pests of the garden soon make sad havoc in a batch of seedlings. I find, too, that in some gardens *T. Greigi* does not succeed well. Why this is so I cannot tell, but several of my correspondents agree as to this. Possibly this failure may be caused by the want of the drying off this Tulip receives in its native habitats, a process which can only be imitated by lifting and drying before replanting. This becomes an impossibility in many private gardens where a large number of bulbs is grown, and although I have found this Tulip beneficial by drying off, it is not absolutely necessary that it should be practised. Another plan might be tried by treating it in the same way as recommended for *Cushion Irises* by the Rev. H. Ewbank. In our milder climate the early growth made by *Tulipa Greigi* makes less difference than in Holland, and it is only occasionally that it suffers from frost. In the arctic winter of 1894-5 the leaves were less injured than in the wet one of 1895-6, and it is not at all improbable that this Tulip would be even less liable to injury from premature growth were we to plant as deeply as it seems to grow in its native habitats. The great convenience for annual lifting afforded by shallow planting is gained at some expense to many bulbs, which thrive much better if planted at a greater depth than is usually recommended. I have found Tulips which had been too deeply buried by digging accommodate themselves to circumstances by forming young bulbs on the stem, but at a greater depth than we usually plant Tulips. Another thing in favour of deep planting is that we can place the roots of the Tulip beyond the risk of being started by those of carpeting plants through which they would grow. The depth of 1 foot spoken of by M. Van Tubergen is not an excessive one, however deep it may appear to those who have the task of collecting the bulbs at this depth in such stiff and hard soil as the collector speaks of.

Whatever may be said against naming forms of a Tulip which reproduces itself so slowly by means of offsets, there is an obvious disadvantage in offering the various colours and sizes under one common name. It is less inconvenient for those who can purchase a dozen or two, and who are thus likely to have some variety among the lot; but those who have enough, say, of the scarlet form and wish some of the others would rather pay a little more per bulb than pay a smaller sum for a replica of one they already possess.

Some of our florists may take a lesson from the beauty and brilliancy of this wild Tulip, and evolve from it, or by its aid, some still nobler form. They should, however, take care that their "improvements" are really what they are called, and not retrograde steps.

Careyhouse, Dumfries, N.B. S. ARNOTT.

Layering Pinks.—The old-fashioned method of increasing Pinks by cuttings or piping has almost died out; indeed, it is a wonder that the practice has lasted so long, considering how easy it is to layer them in the same way as Carnations. Of course more care is needed than with Carnations, as the stems being finer the knife is apt to slip too far through and spoil the layer, but care is all that is needed to ensure success. I have a capital lot of Mrs. Sinkins that were layered early in August. These have been lifted with a fine lot of roots. The best way, and one adopted by those who grow for sale, is to layer from plants not more than two years old; good strong stock

plants are then obtained, whereas on large old spreading plants the shoots are weak, and their great numbers prevent the work of layering being done in a systematic manner, even with thinning out. Plants layered and allowed to remain in September to a good frosts well drained border will produce plenty of fine flowers the following summer. As a rule Pinks are not profitable if kept longer than the third year, the blooms being small and inferior. The newer white form, *Her Majesty*, seems to be well thought of by growers. The individual blooms are certainly very fine, but I do not think it will be found to be so free-flowering as the now universally grown Mrs. Sinkins.—J. C. C.

The tuberous Begonia as a bedding plant.—The value of the tuberous Begonia as a bedding plant has been exemplified within the past few weeks since the fine weather broke up, whereas the Pelargoniums, Calceolarias, and other summer flowering subjects are completely ruined for the season, the Begonias are still bright and full of bloom, and seem likely to continue so for some few weeks to come. It is truly only a limited number of Begonias are grown here for bedding out, but in view of the collapse of the subjects mentioned from the effects of the wet weather their employment will be extended another season. I am pleased to learn by Mr. Gesson's note (vide *GARDEN*, September 19) that the double varieties are such a success with him and shall certainly give them a trial another season. With the exception of an odd plant or so I have used none but single varieties bedded out, and these have always given satisfaction; but one can well imagine what a fine display the double flowers would make when varieties are employed as Mr. Gesson has succeeded in raising and flowering. The tuberous Begonia is essentially a good wet weather flowering plant and as such is a great boon to gardeners who have to create a fine display, and one that will continue until late in the season.—R. W.

PROPAGATING CARNATIONS.

It not unfrequently happens that layering is not done so early as is advisable. When this is the case, the stock should be gone over early in October and all shoots that are not well rooted should be taken off and inserted in sandy soil in a frame. In the case of delicate varieties and those that are very slow in making grass, it is a great mistake to leave them in the open air through the winter, especially where the rainfall is above the average and where fogs prevail in December and January. Even if the layers survive, their vitality is so lowered that they are unable to start away freely in spring; whereas sheltered from climatal vicissitudes they continue to make roots all through the winter months and are in good condition in early spring. When Carnations are layered somewhat late in the season, there will generally be a percentage of the layers that have made no roots at all. If these remain in the open all winter they will of course be of no use, for they will make no roots under such circumstances, but if placed in a frame at any time during October they will form roots, and will by March be sufficiently finished with fibres to admit of their being put into the open ground. With me Carnations generally are not reliable garden flowers when grown in the ordinary way. They succumb to the combined influence of fog, heavy rains, and extreme cold, in a general way being seriously affected by disease after the turn of the year. I am, therefore, obliged to shelter them during the winter months; not potting the layers, but simply planting them in light mould, getting them under cover in the early part of November at the latest. During the dull months they are merely protected from rain and snow, but the lights are pulled off in a dry, frosty time and allowed to remain so night and day, unless there is danger of a fall of snow. In this way only

I plant them out about the middle of March on ground that has been laid up rough during the winter, and they certainly make better growth and flower better than when allowed to remain exposed in the open ground.

J. C. B.

SHORT NOTES.—FLOWER.

Aster acris.—Some masses of this beautiful Michaelmas Daisy are more very fine in the gardens at Aldenham House. It is very showy, and forms a striking group among the earliest of these useful hardy annuals. It is generally sown direct innumerable starry blossoms of a pale yellow colour and possesses a neat bushy habit, not more than 2 feet high.

Tufted Pansy Princess Louise.—This new variety has been greatly admired, and at the recent Viola conference was considered an advance upon all other yellows. The colour is best described as rich yellow. It is a very free-flowering sort, beautifully tufted, with a nice free style of growth. Next season this variety is sure to be largely grown.

Primula Sieboldii in damp ground.—At page 118 there appears a note on the above subject, concerning caes where moisture had proved beneficial rather than harmful to these plants. This entirely coincides with my experience. The finest specimens that I have ever seen have been planted at the edge of a pool where their roots could easily reach the water level.—S. W. F.

Aster Amellus bessarabicus.—This deserves extended culture, because of its large purplish-blue flowers, which are produced on long foot-stalks, so useful for vases &c. The rich orange hue enhances its beauty, and this together with its pretty habit of growth makes it valuable. Some fine plants are now in flower in a larger border devoted to hardy plants at Trent Park Gardens.

GARDEN FLORA.

PLATE 1086.

IRIS DOUGLASIANA AND I. TECTORUM.

(WITH A COLOURED PLATE.*)

I. Douglasiana is among the most distinct and beautiful of all the Beardless Irises, many of which have been described in a recent number of *THE GARDEN* (vol. 50, p. 186). The plant, of which Mr. Moon has given us a most remarkably faithful and excellent portrait, is of vigorous growth, and has long dark green linear leaves, which remain fresh and persistent during the whole winter. I have, however, under the same name a remarkable Iris which is entirely distinct both in habit and bloom from the plant here figured. It has dwarf and somewhat scanty foliage, while the root-stock is what would, I believe, be called "wide-creeping;" the flowers, too, are borne on shorter stalks and are somewhat larger, the falls spreading horizontally, while the colour of the petals, except for the purple or claret-coloured markings at the base, is yellowish white or ochreolous, answering, indeed, somewhat to a description I think I have seen somewhere of that rare and difficult to grow species, *I. bracteata*. I have had this plant under the same name from more than one source, but my present plant came from Mr. Smith, of Newry, who tells me, judging from the date at which it was sent to me, that he thinks it may have been collected considerably further south than the better-known habitats of the typical *I. Douglasiana* here figured. It may not improbably be *I. Beechiana*, classed by Mr. Baker as a variety of this species.

The other beautiful Iris (*I. tectorum*) here figured was sent by Dr. Hance from Japan to

* Drawn for *THE GARDEN* by H. G. Moon from drawings made by Mr. J. C. Ley, East Ferleigh, Maidstone. Lithographed and printed by J. L. Goffard, successor to Guillaume Feveleys.



1 IRIS DOUGLASIANA
2 IRIS TESTORUM

Mr. Bull, of Chelsea, in 1872. As will be seen by the plate, it has broad, pale green leaves and moderately large, elegantly-coloured flowers. The falls are above an inch in breadth, cramped at the edge, marked with deep lilac veins on a paler lilac ground, the standards rather shorter than the falls, plain lilac. It was figured in the *Botanical Magazine* (tab. 6118). This Iris I cannot grow, a remark which, I regret to say, applies to almost every Iris of the Evansia species, I. cristata.

J. C. L.

THE WEEK'S WORK.

FRUIT HOUSES.

FRUIT UNDER GLASS.—Cherry trees intended for early forcing will now be at rest. Where they are grown in pots for that purpose any that may require potting should receive attention forthwith, that the soil may get thoroughly settled before the trees are started into growth. Clean pots should be used, and filled with enough broken crocks to allow the water to pass away freely. The compost should consist of thoroughly decayed loam, lime rubble, and crushed bones or bone-meal. The trees should be carefully taken out of their pots, and after removing the old crocks from the bottom put them into pots one or two sizes larger if necessary. The soil should be made rather firm, and sufficient space must be allowed for watering. Trees that do not require potting should have the surface soil removed, replacing this with a richer compost. This should be made firm, that the roots may the more readily take hold of it. Cherries will not stand severe forcing, and when grown in pots they require constant attention, for they must on no account be allowed to get dry at the roots. If trees are planted out they sometimes grow too grossly, but they may be checked if the roots are not allowed to go too deep. It is far better to have shallow borders in which the roots can be kept near the surface where they may be fed, as the trees require support, than that they should go deep and make rank wood. It is not often that Cherry trees under glass need much pruning in winter if they receive due attention during the growing season, but my pruning required ought now to be done. The shoots should be well regulated as to admit all the light and air possible between the branches. There are now so many good varieties suitable for forcing, that it is difficult to say which is best. The following, however, are all good: Bigarreau des Schreken, Black Tartarian, Early Red Bigarreau, Governor Wood, Guigne d'Annonay, Mammoth, Reine Hortense, and Bigarreau Napoleon.

EARLY VINES—Those intended for early forcing should now be pruned, that the wounds may heal over before they are started into growth. The wood-work and glass should be thoroughly washed down so that all may be clean and tidy. Where permanent Vines are forced early, and tidy bush should be rubbed off, and the rods washed with Gishurst compound or soft soap. The wood-work and glass should also be cleaned in the same way, after which the loose surface soil should be removed and replaced with a rich top dressing. The pipes ought to be painted with lamp-black and oil, but do not use any lead paint, as the fumes from this would be injurious to the young growth. When all have been thoroughly cleaned and the wall lime-washed, throw the pipes open till it is required to be shut, which must be regulated according to the date at which ripe Grapes are required, but in no case should undue forcing take place at first, as this is the chief cause of failure, especially with outside borders.

LATE HOUSES—The dull, damp weather experienced during the last few weeks has been anything but favourable to the colouring of Grapes, as it has necessitated the use of more fire-heat to keep up the requisite temperature and expel the damp; therefore air could not be admitted so

freely as desirable. Wasps have been so very troublesome in some places as to make it difficult to keep them away from the fruit, and where the ventilators are covered during such weather as we have been experiencing, it is necessary that they should be opened wider than usual to admit sufficient air. Happily, there are not many wasps left, and a few cold nights will make off with the rest. Houses in which ripe fruit is hanging ought to be looked over frequently, and if any rotten berries are detected they should at once be removed. A gentle heat should be maintained in the pipes, but the house should be kept as cool as possible to prevent the Grapes from shrivelling, which they soon will do in a dry warm atmosphere. Any Grapes that have started to finish ripening ought to be got forward while there is a prospect of a little sunshine. With the exception of such a wet condition the work of making new Vine borders has been brought to a standstill, but whenever there is a prospect of a few fine days this ought to be completed, that the soil may have time to settle down before planting.

PINES.—In this department there will be little doing at the present time beyond the ordinary routine of work, unless it be the potting up of suckers to keep up the requisite stock of plants. Where time can be afforded, it is well before winter sets in to thoroughly clean all glass and wood-work, that more light may be admitted to the plants. Any houses that require painting should be taken in hand while temporary places can be found in the way of Melon or Cucumber houses for storing the plants in. Examine the hot-water apparatus to see if it is in good working order, and any defects should be made good before baï weather sets in.

MELONS.—The last month was by no means favourable to the growth of these; too much fire-heat was needed to maintain the requisite temperature for their well-being. The absence of sun, too, was much against those ripening, as without this the flavour of Melons is deficient, particularly where the houses are not well heated and the fruit is a long time in arriving at maturity. During such weather a brisk heat must be kept up, and the atmosphere of the houses ought to be drier than when we have an abundance of sunshine. Care, however, is needed, for after such bright weather as that experienced during the east part of August, when rapid growth is to be expected, a sudden fire-heat with dry atmosphere would cause it to spread with great rapidity; therefore the cultivator must be on the alert in case this shows signs of an increase. A temperature of 70° by night, with a rise of 5° by day by fire-heat, ought to be maintained if the fruit is to ripen thoroughly.

STRAWBERRIES IN POTS.—It is many years since gardeners have had so much difficulty with these, and unless a change in the weather takes place very soon, the crowns will not become plump, as the plants will continue to make a sappy growth.

So far it has been next to impossible to feed the plants, as they have been continually soddened with the rain. It is more than fifty years since so much rain fell during September in this district, there having now fallen more than 6 inches, and with as there have only been four fine days during the whole of that time. Plants that are intended for early forcing should be placed in cold frames where the lights can be put over them to ward off the wet; these, however, should not be shut down, but be placed in a bed 6 inches above the wood-work, that current of air may continually sweep over the plants. The lights should be fastened down; otherwise, if you should have a strong gale they will be blown off. In this way the plants get no more water than is given them through the water-pot, but do not starve them, otherwise they will fail to make satisfactory progress. There is as much art in growing the plants so as to have the crowns thoroughly ripened as there is in forcing them into fruit, for unless they are properly prepared they will fail when required to throw up their flower-spikes, many of them turning blind. It is far better to have one good crown than three

or four small ones: therefore this should be the aim of every cultivator. Should there be a tendency in the crowns to split, the weaker ones ought to be removed.

H. C. P.

KITCHEN GARDEN.

ASPARAGUS.—The autumn treatment of established beds of Asparagus is a matter on which opinions vary, more particularly on the question of manuring or otherwise. On some soils and in some situations autumn manuring may be admissible, though I do not think it advisable. The use of stimulants just at the time when the plants are going to a well-earned rest appears to me to be on a par with giving any plant one soaking of water, sufficient to encourage the formation of new rootlets in a time of drought, and then leaving this root system to perish from want later on. Very heavy soil autumn manuring is decidedly dangerous work, followed by a winter in which severe frosts and wet thaws are frequent. My own practice with beets in autumn is simply to cut off the top growth when this has turned yellow, leaving sufficient length of stem to indicate the position of each stool, and then to clean over the surface with a hoe if the soil is sufficiently dry, or by hand-weeding when hoeing is not practicable, leaving the beds thus until winter is over. In any case it is well to slightly break up the surface of the beds with hoe or fork, but not deeply enough to injure the crowns or roots, as the soil does not remain in a sodden state so long after rain when the surface is kept loose and open. In cutting off the tops, care should be taken not to allow the ripened berries to drop off on to the beds; the tops should be taken off the plot in armfuls as they are cut and not laid on the beds, as is sometimes done, until the work of cutting is finished, for seedlings, if allowed to develop, choke the older plants and help to cause the puny heads which are frequently seen on long-established beds, which would, but for being crowded in this way, produce growths as fat as those on their younger neighbours. All the care taken when planting a green crop which occupies room is only wasted when seedlings are allowed to spring up at will. Before cutting over the growth made on beds planted or sown this year, it is advisable to look them carefully over and mark with a stick any blanks which may have occurred, for it will then be possible to refill the blank places when plants in the reserve ground are ready without any hesitation as to whether they are really blank stations or only contain laggard plants. Should it be desired to save seeds for future sowing, these should be saved from stout stems which have only borne a moderate crop rather than from those carrying a heavy crop.

ASPARAGUS FORCING.—Before the close of the cutting season proper I advised that sufficient plants for forcing be allowed to develop their growths early, and these plants, if lifted carefully and with most of their roots uninjured, will now at any time be ready to respond to the ordinary forcing treatment. For the present I advise that an ordinary hotbed be made up with manure and leaves inside and around a brick pit or frame which is not heated in any other way, for I find this gets the best results under the system of forcing except, perhaps, well-made hotbeds, i.e., one which generates heat without becoming over-heated, will retain its heat long enough to carry each batch of plants through. An ample quantity of leaves or spent manure, say about one-half, should be mixed with the now stable litter, each layer should be trodden firmly and sprinkled if at all dry, and the bed so built that sinking will be very slight. In about a week after being made up the bed should be ready for planting, first putting on about 3 inches of light soil, then the plants on this closely, but without much overlapping, and then again more soil until the crowns are buried from 2 inches to 3 inches below the surface. Before planting it is well to make sure that the heat will not rise to a dangerous point; if it does,

The crowns will get stewed. One or two test sticks should be left in each light, and these should be allowed to stand until all fear of danger has passed, and if any decimated rice taken place after planting, these sticks should be withdrawn and the holes made by them left open, more holes being made if need be to let out the surplus heat. When growth appears, which will probably be in about a week from planting, the pit should be ventilated whenever possible and full exposure to light must be given, unless blanched heads are preferred. Cover the lights with mats as frosty nights, and cut over the produce as it becomes fit.

CARROTS.—Three weeks ago I advised that the early Carrots should be bound with hay, straw, and gathered up, and it will now be time to take the main crop in hand, for though the plants may go on growing for some time to come if the weather remains mild, there is no certainty about this, and the first touch of anything like a sharp frost will injure the stems and carry decay downwards to the hearts. I think I have never seen Carrots make such fine growth as they have done this year, and as this growth must be sappy, there is all the more reason to protect it early. Again, early blanching is advisable, as when this has been completed, the plants may be lifted and stored under cover, where they will be safer than if left in the open ground.

SEAKALE.—This is not always so ready to respond to forcing in the autumn as is Asparagus; for it does not finish its natural growth so early. Those who planted a small lot as advised on a sunny border with a view to hastening the season, and procuring a few dishes during the early part of November will do well to hasten the ripening process by severing the deepest roots at once. This is best done by two men going along the rows, each thrusting a spade down to its full depth on either side the row and lifting each plant slightly until some of the biggest roots snap. More than this should not be done for the present, for by over-doing the breakages the object in view will be defeated, and the crowns will refuse to start when required. The growth of Seakale is checked by frost, and it will not bear rain, came, and will probably continue to do so for some time longer unless we get frost severe enough to check it, but no artificial means, such as that recommended above for checking growth, should be employed on the main crop, and it is only advisable for the batch grown to supply material for cutting before and up to the last week in November.

TOMATOES.—After this date it is doubtful if tomatoes on outside walls derive further benefit from being allowed to remain any longer in that position, the only exceptions being those which can be covered with glass lights by day and some additional covering by night. Of course, I should not recommend their being removed if the weather keeps fine and mild, but chilly nights, heavy fogs, and very slight touches of frost, even if not sufficient to blacken the foliage in the least degree, are not conducive to ripening, and, except under the most favourable conditions, I now advise that the plants be first lightened of all fruits which are colouring, also of those too small to be of use, and then cut bodily off and hung up in a dry, light house where there is not much draught, or laid on a shelf in similar quarters. Here they will colour up and be useful for cooking for many weeks to come, but not, of course, of the quality required for salads. The fruits already colouring will ripen up and be useful for either purpose. Should there be room for them in a house where a little heat can be given, it is advisable to lift and pot them off, as the plants will be carrying a good many fruits, and, with care, these may be taken off to re-establish themselves and ripen their fruits in good condition. Plants grown specially for winter fruiting will be setting fruit, and should have a nice growing temperature given them, with sufficient air to prevent the least suspicion of a muggy atmosphere; careful watering, too, is important,

| as excesses either way will lead to failure in setting

Spinach.—Up to the present the winter Spinach looks well and there is no appearance of spot on the leaves. Growth has been rapid, and that even which was sown early in September is getting quite forward and ready to be lightly thinned. Where room can be found I advise that a still further sowing be made on a raised bed, as the plants usually winter excellently when they appear before November, and there is seldom any need to complain of an overcrop of Spinach. With such a bed in hand one does not mind picking from the earlier sowings rather severely in time of need. Winter and spring Spinach, being a crop about the success of which it is never entirely safe to prophesy, is more likely to be harvested in plenty when three or four successive sowings are made than when confined to two sowings. Treat the beds as advised in calendar notes for September 5. J. C. TALLACK.

CALENDAR NOTES

FRUIT AND VEGETABLE CROPS

SUPPLEMENTARY

Frome, Somerset.—Apple trees generally flower profusely, but the crop set are variable. In the case of old orchard trees they are very light indeed, but garden trees are, with a few exceptions, carrying excellent crops, only wanting a soaking rain to make them perfect. Many will doubtless drop prematurely owing to being grubbed out, but this the growers in many instances have to blame themselves for. They ought to have early thinned out the bunches of fruit and cleared them of dead flowers. It is the starved trees that have failed. Beauty of Bath, Irish Peach, Quarrendon, King of the Pippins, Cox's Orange Pippin, and Blenheim Pippin are the best of the dessert varieties, and the most heavily cropped cooking Apples are Lord Suffield, Kentwick Codlin, Mancks Codlin, Warner's King, Eckleby Seedling, Tom Putt, Alfriston, and Lane's Prince Albert. Fears again are variable. In some gardens they are plentiful, in others very scarce. The old favourites seem still to be the most reliable. Williams' Bon Chrétien, Louise Bonne de Jersey, Beurré d'Amiens, Durondeau, and Beurré d'Arenberg are the most heavily cropped. Cherries set good crops, but only where wall trees were kept washed did the fruit reach perfection, while birds were more than usually troublesome. As usual, there are good crops of Morello Cherries.

Plums are abundant. Most of the wall trees of Rivers' Prolific, Victoria, Orleans, Oullin's Golden, Kirkes', Jefferson, Monarch, and Pond's Seedling are heavily laden with fine fruit, and even Coe's Golden Drop has a good crop. Some of the trees in the open are cropping heavily, others are bare of fruit. Victoria, Pond's Seedling, and Monarch are the most heavily laden of the trees in the open. Damsons are thin. Apricots are a full crop, and the fruit, where judicious thinning was given, of superior quality. Moorpark and Hemkirk being extra good. Peaches and Nectarines are also cropping grandly. The American introductions ripened early, and all other varieties will have good time to ripen. Strawberries, owing to late frosts and subsequently excessive heat and drought, were a comparative failure. Only those that were mulched early and heavily, and also kept supplied with moisture, gave good crops, and these ripened more rapidly than desirable. Raspberries suffered in much the same way and were soon over. Gooseberries and Red and Black Currants are abundant. Nuts of all kinds are remarkably plentiful.—W. J. IGOLDEN.

Yattendon Court.—Apples a partial crop in sheltered orchards. Pears about half a crop. Plums very few. Cherries on standards poor. Morelos on walls good. Strawberries very good. Currants, Gooseberries, and Raspberries are fair crops, but they suffered from want of rain.

Season too dry for a good, full crop of vegetables. Peas are the shortest crop I have had for

several years. The new climbing dwarf Beans are good in a dry season.—R. MAHER.

Chillingham Castle, Belford—Strawberries this season have been but a light crop. Gooseberries, Red Currants, White and Black Currants, likewise Raspberries, are splendid crops. Apricots, Cherries, and Plums are all very heavy crops. Pears are light, except Beurteil Diel and Louise Bonne of Jersey, which are very good. Apples are a fair average. Peaches out-side very good.

Owing to the dry season a great many Lettuce has gone to seed. Cauliflowers, Carrots, Turnips, and Beet are good; Spinach and Onions poor.—
RICHARD HENDERSON.

The Abbey Gardens, Ramsey.—Here in this fertile fen district we have had very heavy crops of Strawberries, Gooseberries, Red and White Currants, also Cherries, the Morello carrying very heavy crops. Of Apples and Pears we have an average crop, but Plums, Damsons, and Walnuts are only partial. Wall fruits, such as Apricots, Peaches, Nectarines, Figs, Pears, Plums &c., are a good crop.

Pear, first crop plentiful. Veitch's Earliest Marrow I find both for cropping and quality one of the very best, and quite as hardy and early as the white round varieties. Second sowings suffered somewhat from thripes, but main and late crops are doing well. I find Boston Ut- ralisted, Veitch's Maincrop, and Carter's Daisy first-class main crop varieties, while for late crops the old Ne Plus Ultra and Autocrat promise well. Early Potatoes are good and of splendid quality, but the late ones are suffering from drought.—*H. H. S.*

Tedworth, Marlborough.—Fruit crops are, on the whole, satisfactory as regards quantity, but owing to the long drought will be much under average in size. Peas are our worst crops. Although bloom was abundant, some varieties failed to set, Marie Louise being the worst. Some varieties, such as Bon Chrétien, Seckle, Thompson's, *Ne Plus Meuris* and a few others, it has been necessary to thin. Apples are above the average in quantity, but in some cases badly attacked with maggoty; especially is this the case with early varieties. Blenheim Orange and its restricted trees is carrying good crops. Lane's Prince Albert, Hawthornden, Hamblion Deux Ans, Lord Saffil, Stirling Castle, Bramley's Seedling, Golden Noble, King of the Pippins, Cox's Orange Pippin, Yellow Ingester, Golden Pippin, Starburst Pippin, Cellini and Court of Wick, among others, are carrying good crops. Plums on west and north walls are plentiful, many varieties having to be thinned, especially cooking varieties on a north wall. Victoria, Mitchelson's, Belgian Purple, Pershore, yellow Magnolia and Pond's Seedling all bloomed profusely and set very thickly. All the Gages are good crops, also Jefferson and Kirke's, but green fly has been very troublesome on them. Apricots are a heavy crop, Moor Park again being much the best. I have been much troubled with branches dying this season. Peaches and Nectarines are carrying good crops, and with so much sun the fruit is very early and highly coloured. Strawberries where watered were very satisfactory, Royal Sovereign being very fine in all respects. It is undoubtedly a great improvement on Sir Joseph Paxton, being quite free of mildew when forced, and travelling well when packed. President was also very good. Viscountess is still a favorite here on account of its good preserving qualities. Gooseberries were a good crop, also Black Currants, but Red and White were very thin. Morello Cherries are a good crop and much cleaner than usual, all kinds being thin.

Fruit crops of Potatoes almost a failure, but in the garden they are satisfactory, being of a good clean and white free of disease, all the haulm of most kinds dying fast. Early Peas were very good. May Queen, A 1 and Empress of India, although a few days later than the round varieties, are much preferred here, but Gradus will be more

grown next season. Owing to thrips, mid-season Peas have been almost a failure, but Autocrat and N. Plus Ultra promise well for a late supply. The rainfall up to August 1 was 9·27 inches, 4·22 inches of which fell in March, and only in January and June has it exceeded 1 inch.—G. INGLEFIELD.

Kidbrook Park, Forest Row.—The crops of fruit in this garden are good. Apples are variable, some sorts abundant, more especially the Keswick Codlin and Manks Codlin. Most of the standard trees are bearing heavy crops. Young pyramid trees are bearing good crops of large clean fruit. Apricots bore a fine crop of fruit. Cherries of the sweet varieties below the average, and very much blighted during the early part of this summer; Morellos a fair average crop. Pears upon the walls above an average crop. Most of the varieties planted here are bearing heavy crops. Some of the Plums are bearing very heavy crops; I had a fine crop of that most useful one, Early Favourite. Green Gage above the average. Red Magnum Bonum, Kirke's Prince Englebert and Washington are bearing heavy crops upon the walls; standards below the average. Damsons an average crop. Peaches and Nectarines above the average crop. Walnuts below the average. Nuts and Filberts very plentiful. Gooseberries below the average. Red and Black Currants above the average. Raspberries over an average crop. Strawberries very abundant, but owing to the dry weather the crop was soon over. President was the best cropper and stood the drought better than any of the other varieties. Blackberries an abundant crop; the Parson-leaved variety is cropping better than any of the others.—WM. CHRISTISON.

Aldenham Park, Bridgnorth.—The fruit crops in these gardens and neighbourhood are quite up to the average of the last eighteen years with the exception of Apples in the large orchards, which I might almost say are a complete failure, owing in a great measure to the quantity of caterpillars and other insects that made their home on the trees during the months of May and June. Apricots, Peaches, Plums, and Cherries are very good, but required more attention than usual. Gooseberries did very well, but had to battle hard against red spider and caterpillars. Currants very good and healthy, especially that fine red variety La Fertile. Strawberries excellent except John Ruskin, which is very subject to mildew here.

Vegetable crops in general are very good except on light land where the drought was too much for them. With regard to Peas, for an early dish I cling to that good old variety Dickson's First and Best, with William the First as a succession; then Laxton's Supreme, Duke of Albany, and Telegraph for main crop, and Walker's Perpetual Bearer for late use. If William the First is sown the first week in July it will come in about the middle of October.—THOS. CANNING.

Wynyard Park.—Fruit crops in this district are partial. Some sorts are carrying really good crops, whereas others have none. This is particularly the case with Apples and Pears, each of which dropped quantities of bloom and fruit owing to the drought, and to this cause I attribute the difference in the crops. Taking Apples first, our best are Ecklinville, Tower of Glamis, Blenheim Oranga, Lane's Prince Albert, Beauty of Kent, Worcester Pearmain, King of Pippins, Northern Greening, Sturmer Pippin, Scarlet Nonpareil, Keswick Codlin, Rymer, Dutch Mignonne, and Court of Wicke. The best Pears with me this season are Williams' Bon Chretien, (extra good), Duchesse d'Angouleme, Doyenne du Comice, Beurre D'Isle, Urbaniste, Flemish Beauty, Bourr' Rose, Napoleon, and Autumn Colmar. I have noticed Clapp's Favourite very good in the district, though with me it has failed for the first time. Plum very good; the best, White Mirabelle, Jefferson, Victoria, Washington, and Magnum Bonum. I expect however a sufficient crop, and the fruits extra fine in size and quality, the best I have seen in my twelve years' experience in the north. Morello Cherries fine and good crop. Strawberries were much above the average, the

crop heavier and the fruit finer than usual. We did not suffer from the drought at their period of fruiting as was the case in the south. Bush fruits have been good, but Raspberries very bad, the canes not having recovered from the intense frosts of February, 1895, when they were almost killed.

All vegetable crops are, and have been, good. Potatoes and Peas above the average in crop and quality. I rely entirely upon Chelsea Gem for early work. I have not yet found anything to equal it either for quality or cropping, and for general work I grow Criterion, Veitch's Main Crop (the latter an acquisition), Prodigy, and Veitch's Perfection, depending upon Autocrat and Sturdy for late kinds, the former of the two being by far the better. I have it in excellent condition now (September 11), and with favourable weather I hope to have it so for quite another month.—H. E. GRIEBLE.

Great Garies, Ilford, Essex.—The season has been altogether satisfactory. Apples I consider to be the most important crop of horticultural interest, and when the crop has been fair or even more so, I have lovely fruit of the Quarrendon and Early Strawberry. Lord Suffield for kitchen use is large and fine. Lord Grosvenor is also first-rate. Alexander is the only variety that has failed; it is a fine looking Apple, but one that is not needed in gardens. In a light soil on gravel at Loxford, Celini was one of my favourites; here on a more clayey soil it is of no use and has been discarded. I have most of the popular sorts in full bearing and very promising. Pears are a fair crop, and what they lack in quantity they will make up in quality. The fruit is clean and promises well. Plums are a good crop. All the wall trees have borne well. Owing to the dry season the fruit is small; the trees seem to suffer rather more from the drought than do Apples and Pears, but this is most likely caused as much by a serious attack of aphids as by any other cause. Cherries have been an abundant crop, and where the trees could be well watered the quality has been superb. The Morellos have been fine and abundant. The great point is to keep the trees clean, well watered and mulched around the roots. Strawberries plentiful and good. They suffered somewhat from the drought, but the mulching of stable litter helped them. Gooseberries and Raspberries were abundant, but they suffered from drought.

The vegetable crops have been as good as might have been expected where it was not possible to water them. Such seasons show the value of deep trenching and manuring in the winter. Where this has been done crops are good, but poor on ordinary dug ground. Potatoes have been good on the early borders, and now we have gone into the field the tubers are turning out large, clean and free from disease. The haulm is not large, and the quality of the tubers is excellent.—J. DOUGLAS.

Heckfield Place, Winchfield.—The fruit crop hereabouts is the worst we have had for some years, although at blooming time one might have predicted a most bountiful fruit harvest. The prolonged drought on a gravelly soil and the ravages of caterpillars are probably the two chief causes of such a failure. Apples are almost a total failure, young, vigorous trees alone carrying small crops, whilst older trees are quite bare. In this garden one sack is probably our crop, although possessing an old orchard and fine young trees planted some nine years since round kitchen garden quarters. The trees in the old orchard were denuded of leaves by caterpillars, which, together with every Oak in the neighbourhood, presented the appearance of winter in the midst of summer. Pears are very poor, Beurre Hardy, Fondante d'Automne, Knight's Monarch, Durondeau, and a few others bearing fairly good crops, but many others stand standard kinds are quite bare. Plums are an average crop; those varieties which are applicable to Cherries and Apricots. Peaches and Nectarines outdoors are good, and have required very heavy thinning. The trees are very clean, copious washings with the garden hose keeping down insects and sup-

plying moisture at the roots, the two great necessities in successful Peach culture outdoors. Smaller fruits, such as Gooseberries, Currants, Raspberries, &c., have been good, although at one time they looked like being a failure owing to the drought. A very heavy thunderstorm on June 10 came just in time to save the crop, 2·13 inches of rain being registered here in twenty-four hours. Strawberries have been very good, fruits exceedingly fine, although the season has been short.

Vegetables, unless kept well mulched and constantly watered, have suffered severely, and winter stuff is sadly in need of rain. Peas, with the exception of the earliest kinds, have been bad, and it was difficult to keep up the supply. Herbaceous plants in borders are simply dried up. Phloxes, Michaelmas Daisies, and the many beautiful autumn flowers are ruined for this year, and will no doubt be considerably weakened for next season.—A. MAXIM.

Coolhurst, Horsham.—The fruit crop has been a fairly good one in the gardens here. Strawberries were altogether an excellent crop of fine, large, well-coloured fruit. Sir Joseph Paxton was more than usually fine in finish and colour to the point of every berry. There is not the slightest doubt this variety is one of the most reliable in cultivation for exportation, and it has grown in favour as an excellent all-round one that does well in most situations where it has the advantage of thoroughly cultivated land with plenty of room for foliage and fruit to develop freely. Next in point of quality and fruitfulness come Vicontessa Héricart de Thury and President. In all the long list catalogued at the present day I doubt if there are three more generally useful varieties than the three above named. Noble and Keens' Seedling I shall discard, for neither is so generally reliable nor useful all points considered, the former being large, soft, without the flavour so necessary for a Strawberry to have to make it generally acceptable at the table for dessert; the latter does not seem to suit this part of the country so well as it used to do in the north. British Queen I have tried in different positions, but it has always failed. Royal Sovereign I have not had sufficient experience with to pass an opinion on. What fruit I have had has been fine, so I am full of hope of it in the future, being a free, clean grower. After repeated trials in good land in good positions I have failed to see the general usefulness of Loxford Hall, Waterloo, and several others that were tried on the same bedrock. The carabdi grown beside the wall with Vicontessa is in every way just Vicontessa, so only one of these in future will be grown. Old Grove End Scarlet still retains its high position as the best preserving Strawberry, the berries being of a light scarlet, slightly acid, and never too large. The second and third gatherings of Vicontessa are of a fine size for preserving making, only the colour is darker than in the former. It is quite necessary that new kinds should be well tried with every advantage as to soil and situation before a just opinion can be formed respecting their merits. Raspberries only a fair crop, although they were mulched and watered. The season has been much too dry for these; then last September's drought and heat ripened the canes before they made a full growth. Where I have them on deep land in a shady position the fruit is good, but not quantity. Black and Red Currants were excellent crops, particularly the former, the berries being large, clean, and abundant. These were grown on a north border behind a high wall, where they are much shaded from the full force of the sun, and being well mulched in the early part of the winter retained the moisture about their roots. Black Grapes and Baldwins were especially fine. Gooseberries are good, being large and clean in berry. With these in former seasons I had much trouble with caterpillars. As a preventive against their attacks, I, in the early spring, dusted the trees frequently with lime and soot with the view to preserving the buds from the birds. The same was done in among the roots to destroy what caterpillars might be there from

the previous season. After the trees came into leaf they were gone over with the engine and soap-suds; this was repeated three times in all with a fortnight or thereabouts between each dressing, and although the canopies made a start several times they were ultimately thoroughly subdued, and now the trees are clean and healthy, with full foliage to enable them to form buds for another year. Red Currants were treated exactly in every way similar to the above, with the same good results. Cherries are as a rule poor; even although the trees flower freely and set fruit, it at a certain stage falls off. The garden, being surrounded by high forest trees, seems to affect the progress of swelling in some way or other. Plums are thin; only Pond's Seedling, Jefferson, Blue Gage and one or two others have anything like a crop. Pears are so thin generally, that no particular variety can be named more than another, unless Williams'. Apples cannot be called a good all-round crop, but the following have fine crops, viz., King of the Pippins, Ribston Pippin, Cox's Orange Pippin, Mannington's Pearmain, Blenheim Orange, Wellington, and a few other sorts. There is every appearance of Apples being small in size unless an abundant supply of rain comes soon to moisten the ground thoroughly about the tree roots, which must be in a very dry state from the long protracted drought, and on many occasions great heat. Medlars good crop. Walnuts fair. Filberts fair—quantity and likely to be large. Mulberries fair. Those are all much behind in quantity compared with last year. Peaches and Nectarines are behind their usual here; green and black fly were so abundant at flowering time that much of the bloom was destroyed. Figs are a good crop. Grapes good all through. Thrips and red spider very troublesome.

Vegetables have had a hard time of it since the beginning of June. Peas and Cauliflowers have suffered the worst. Several sowings of the former had to be pulled up and thrown away owing to being attacked with mildew and insects. Very many of the latter have gone blind, both early and late; Veitch's Autumn Giant more than usually so. Carrots have done well considering the drought. Onions are particularly good, being quite free from maggot and mildew. These were watered through a fine rose with paraffin water in early growth, which seemed to do them much good in keeping off the fly. Potatoes are an excellent crop all through. Early Puritan holding its reputation as an excellent second early in point of quality and quantity. These I never plant with manure of any kind, beyond giving the ground a good coat of burnt ashes which contains potash, and although a good stimulant, it does not create rank growth of a watery kind, that makes the tubers soft and liable to disease.—A. KEMP.

STOVE AND GREENHOUSE.

DRAZENA GODSEFFIANA.

THIS very distinct looking plant was first exhibited by Messrs. F. Sancer and Co. at the Temple show in May, 1875, when it was unanimously given a first-class certificate. It is hardly possible to compare it with any of the well-known species or varieties. It is possibly a form of *Dracaena seleriana*. In the "Dictionary of Gardening" D. *seleriana maculata* is described as follows:—"Leaves green with yellow spots, lanceolate. Old Calabar, 1867." This agrees with the description of *D. Godseffiana*, as shown. *D. Godseffiana* is a most promising looking plant, in every way distinct from such unique species as *D. Godseffiana*, *D. Sandiana*, and *D. Lindeni*. It is also of free growth and easily increased. It is more like an *Arundinaria* than a *Dracaena*, sending up cane-like shoots, the branch arrangement more or less in whorls, while the leaves much re-

semble those of a hardy Bamboo. In the lovely colouring of the leaves there is nothing like it among plants grown under glass. The leaves are quaintly blotched and spotted with yellow on a shining deep green ground as in *Aucuba japonica*. It further adds to the value of this *Dracaena* that its long shoots can be cut for decoration, as they stand well and there is no loss of plant, many shoots arising from an underground culm.

SOUTHRON.

larly firm texture. The flowers were a kind of camellia-pink and very pretty. B. Roezl succeeded best with rather more heat than most of the *Bouvardias*. About the time above indicated Messrs. Henderson sent out three new hybrid varieties claiming parentage from B. Roezl. They were *Conspicua*, *Vivicans*, and *Unique*; but being like B. Roezl, difficult to grow, they soon dropped out of cultivation. The most distinct of the three was *Unique*, the flowers being a kind of violet-carmine, with the outside of the tube white.—T.

Acalypha tricolor.—Thirty years ago, when this was first introduced, stove plants with ornamental foliage were extremely popular, and to-day many of them are little known, and some are treated very differently from what they were when new. Of this *Acalypha*, for instance, there is a bed at Battersea Park carpeted with the variegated *Dactylis*, and very pretty it is, the *Acalypha* being particularly brightly coloured,



Dracaena Godseffiana. From a photograph sent by Mr. H. G. Moon.

grown makes a striking plant, though it does not carry a great deal of weight.—R. D.

Bouvardias.—The old *Bouvardia triphylla*, which I recently saw flowering profusely in the open ground, suggests the question whether some at least of the original species which have been almost ousted by the numerous garden varieties are not still worth a place, particularly such as this, which for brilliancy of colour is unsurpassed by none, although it is equalled by a second species, *B. leiantha*. In both of these the flowers are of a bright vermilion hue. Both the individual blooms and the clusters in which they are borne are much smaller than those of the different garden forms, but they are produced in great quantities, and a succession is maintained for a long time. A very distinct species (*B. Roezl*) was occasionally to be met with—some twenty years ago or thereabouts, but I have not seen it recently. This species used to form a large underground root-stock or tuber-like mass of a woody nature, while the leaves, too, were of a particu-

that is, for outdoor specimens, though under glass it may be had richer still. The different *Acalyphas* are all of easy propagation and culture—indeed, given stove treatment they are rather apt to grow so strong as to present a weedy appearance. When in good condition, however, the curiously irregular arrangement of colours, in which red and brown predominate, is particularly noticeable, and neat little specimens which can be grown in pots 5 inches or 6 inches in diameter are very useful, more particularly if they have not been grown in too high a temperature.—H. P.

Carnation blooms splitting.—That some otherwise desirable varieties of Carnation are practically useless, by reason of the calyx splitting to such an extent that the flower is well known, but when otherwise trustworthy varieties behave in this manner there must be some particular reason for it. Thus I was consulted last year in reference to a quantity of *C. Uriah Pike*, which, though finely-grown plants with

large blossoms, had in many instances the calyx split to a considerable extent, while the larger flowers were more confused and certainly less pleasing than those usually met with. I advised treating them less liberally another season. This has resulted satisfactorily, for the same plants which showed this defect most markedly last year, as well as young ones propagated therefrom have no burst flowers this year. Thus it would appear that a too liberal use of stimulants will tend to cause the calyx to split. The plants above alluded to were grown in pots for flowering under glass.

Phrynum variegatum.—The plants seen on the hawkers' barrows in the streets of London are often a puzzle to many in more ways than one, for in the first place it is surprising how such well-grown plants can at times be sold for so small a sum, and again, not exactly rare, but decidedly uncommon plants may be met with exposed for sale in this manner. I was certainly somewhat surprised the other day to see half a dozen well-grown and well-variegated plants of this *Phrynum* in 5-inch pots among a miscellaneous collection of ordinary subjects exposed for sale on a coster monger's barrow. It is certainly a very pretty plant, and those alluded to were examples of good culture, but they did not seem to be much appreciated by the general public, as the few purchases after I first noticed them five days were still remaining. Though it is generally known as *Phrynum variegatum*, this has flowered and proved to be but a variegated variety of the Arrowroot (*Maranthes arundinacea*), so that this latter must now be regarded as the correct name.—H. P.

AURICULAS IN POTS.

Some of the finest sorts of Auriculas must be grown in pots if the cultivator would have them bloom in the best condition; it is a simple case of necessity. In the first place, the named *Auriculas* (green, grey and white edges) and selfs are so expensive that they cannot be, and must not be exposed to heavy rains, then they are to some extent constitutionally delicate, which necessitates protection; not that they are generally difficult to cultivate, for they can be grown with comparative ease if only the treatment be correct; but attention they must have, and that constantly. Just now—the plants having made their summer's growth, they are commencing to fall away to their autumn and winter's rest. The lower leaves gradually turn yellow and wither, and they should be removed, the soil kept stirred on the surface, everything about them kept clean, and the plants made as comfortable as possible as winter approaches.

It is good practice at this time of the year to go over the plants closely to see that they are doing well, that there is no trace of the insidious rot in the main stem, that the woolly aphis is not troubling them, and that they are cleared of green fly. Some plants potted two or three months ago may not be doing well; when this is so they soon show symptoms of ill-health by remaining stationary, and it is well to turn them out of their pots to ascertain the cause. Some young plants in small pots may need a shift into pots of larger size, especially if they are likely to flower in the spring; but it should be a shift only, disturbing the ball of roots as little as possible. The sooner such repotting can be done, the better.

Watering is a matter needing close attention I am by no means in favour of keeping the plants in pots so dry during the winter, as is sometimes recommended. When allowed to go quite dry the root-fibres perish, and have to be renewed before the proper root-feeders are provided. I keep my plants fairly moist—enough of moisture to keep the foliage in good condition; watering with care where it is needed, but taking care that the soil about the roots is thoroughly saturated. Where there is good free drainage and water passes quickly through the soil there is little to fear. It is when the drainage becomes choked and the soil water-logged that danger to the

plants is imminent. In such a case as the latter it is best to shake all the soil from the roots and repot, using a pot just large enough to take the roots without cramping them. Timely attention now may prevent losses later on. All growers—even the most skilful and the most successful as exhibitors—have their losses, and it is always annoying to lose a flowering plant of a fine variety. During autumn and winter let there be ample ventilation all the while the weather is favourable, and whether the plants be in a house or in a frame it is well to have them near the glass, with, as far as possible, a free circulation of air below. In the case of very severe frost it is necessary to cover up securely.

Can named *Auriculas* be purchased is the question often asked, and it is possible to rely by saying they can. The following may be obtained at fairly reasonable prices: Green edges—GeneralNeill, Lovley Ann, Rose, F. D., and T. A.; grey edges—Alexander Meiklejohn, C. E., Browne, George Lighthbody, Richard Headly, Robert Traill, and William Brookbank; white edges—Aeme, Beauty, Taylor's Glory, and Silvia; selfs—Black Hess, Heroine, Lord of Lorne, Mrs. Douglas, Mrs. Potts and Pizarro Hera, this is a selection from which a young beginner might obtain a small collection to start with. It is always well for the beginner to try his hand at growing some of the commoner varieties, and if he succeeds with these, then he can add something choicer in the certainty that he will succeed with them also.

R. D.

HOUSING TREE CARNATIONS.

The incessant rain, coupled with an almost entire absence of sun during the past fortnight or more, has caused these plants, as, indeed, all others that are still in the open, to have been literally deluged with water time after time. Upon more than one occasion of late the plants have been so deluged with the rain, that water has stood to the top of the pot, and during the past fortnight or three weeks I have not once given water to the plants. At an earlier date, *viz.*, before the roots had taken thorough possession of the soil, such repeated delugings day after day would so quickly have soured the soil as to have caused the loss of many plants. And it is more than possible that the same may yet ensue with the more established plants. Much of the harm that may arise from these repeated soakings day by day, and with little or no chance of getting sufficiently dry at the root to keep the soil sweet and good, depends largely on the individual vigour of any given plant. In nurseries where these Tree Carnations are largely grown they cannot be accommodated with pits or frames, and, moreover, the houses they are to be standing in during the winter are usually not available for them till well on in the month of September. Under these circumstances the plants are very much at the mercy of the weather, and with this well impressed on the memory at the beginning every precaution is taken that the plants receive a very perfect system of drainage, and further, that they are placed on a good hard bottom of coal ashes. This is the most that can be done, unless it be to place lights temporarily over any kind of a weakly constitution. For the summer growth of these plants I am not prone to look with favour upon frames or pits, believing they are far better in the full enjoyment of air circulating about them. At such a time of heavy rains as we are now experiencing, I would, had I room to adopt precautionary measures, indulge in a kind of skeleton frame covering of lights without any side walls of any kind, merely supporting the lights on a framework to throw off the wet.

In the early part of the present summer, when most of the stock had been transferred into 8-inch pots, the weather was very dry and equally trying for the plants. A week after week passed and no rain came, the plants, although given ample room at the root and daily looked to for watering, made no headway, and the little growth that was made gave every evidence of running

prematurely to flower. This was so evident at the end of June that it looked as though many plants would be very thin and spare, and as such produce but little winter bloom. Continued syringing overhead and through the plants was in some instances productive of good, but the plants were quite powerless to make their usual free growth. Shading the plants seemed to avail but little. But when the rain came a few weeks ago all those plants that were not irretrievably dwarfed by a premature mass of flower buds quickly benefited and commenced to develop rapidly both in leaf and stem. Indeed, more growth has been made during the past month than in the ten weeks previous, and where the premature flower-spikes were early removed, and removed sufficiently deep to enable growth and not a secondarily weak spike to appear, the plants have profited greatly. The plants are now promised to give a good succession of spikes, and these at a useful time. The rains, however, which for days past have been all but incessant, are now becoming serious even for large well-established examples, and no time should be lost in getting these under cover. In any case where this cannot be done and where either no frames exist or where the stock is too large for the supply of frames, it will be well to lay the plants on their sides in the event of any further heavy storms. After the plants are housed, however, the fullest ventilation should be given, and with the continuation of the excess of moisture in the atmosphere, the merest bit of warmth at night in the pipes will effectually prevent an undue amount of moisture condensing on the foliage and the disease sure to follow in its train. In the case of white-flowered varieties such as La Belle, Le Neige, Mlle. Carle, Mrs. Moore and others, care should always be taken to house these before the topmost buds are fully grown, as when fully developed they are quickly spoiled by so much wet. A year or two ago I lost many blooms from the damp in this way where I was not able to house sufficiently early to catch the earliest buds, and it took days even after housing for the plants to fully recover, even with the assistance of a little fire heat. Indeed, it is surprising the amount of damage caused to a flower even when one petal only has been injured by wet at this season.

E. J.

Clerodendron fallax.—This is usually regarded as a stove plant, and indeed, to be successful in its culture it needs that treatment throughout the greater part of the year, but when in flower the blossoms remain fresh a good deal longer in cooler structure. This is more particularly applicable to those that bloom early, say in August, as these succeed in the greenhouse, but even later on they will do well in an intermediate temperature. It is a plant of easy propagation and culture, as in the first place it can be increased either by cuttings of the branches or roots, while seeds are often produced, and when sown the young plants quickly gain their appearance. Growth in pots only 5 inches in diameter, this *Clerodendron* will form nice little plants, which if carrying only one of the large terminal panicles of bright scarlet blossoms make a goodly show.—T.

Begonia Gloire de Lorraine.—This pretty winter-flowering Begonia, of which a coloured plate appeared recently in THE GARDEN, is now in bloom with me, and unless we get very heavy fogs the same plants will continue to flower until after Christmas. It is undoubtedly the best of its class for keeping up a succession of bloom, and its compact habit and bright green foliage are further recommendations. Owing to the profusion of bloom, it is a little difficult to keep plants for stock, but with care by taking off the flowers they may be induced to break back where they commenced to flower. The cuttings should be taken before they have made much growth. Good cuttings may generally be had about March, and these will make nice plants for flowering in 5-inch pots the following autumn and winter. The cuttings will root freely in the stove propagating

pit if light sandy compost is used, the cuttings being put in only just deep enough to keep them firm. A compost of loam, leaf-mould, and well-rotted manure, with plenty of sand added, and good drainage will ensure good growth if the plants are properly attended to with regard to watering. They may be grown on in a pit or cool house during the summer, but as they begin to show flower in the autumn a little warmth should be given. A little liquid manure or artificial fertilizer will assist the plants to keep up a succession of bloom, but only small doses should be given and repeated at frequent intervals. When well grown this Begonia is unsurpassed as a pot plant. The coral-pink blooms are also very pretty for cut bloom and last much better than those of most Begonias.

—A.

TREES AND SHRUBS.

SPIREA ARIFOLIA.

WILL some reader of THE GARDEN give me the names of the three most beautiful deciduous flowering shrubs? What I want must be large and absolutely hardy throughout the United Kingdom, always uninjured by winter or spring frosts. I think Rhus Cotinus would be one of them. One that answers this description is Spirea arifolia, of which I send you a photograph. This shrub flowers profusely every season, and is, I think, when in bloom the finest of the species. Spirea Lindleyana has, perhaps, handsomer pinnate leaves, and certainly larger panicles of bloom, but not produced in anything like the same quantity, nor is this variety perfectly hardy; it sometimes suffers in severe winters. It is a great pity these large Spiraeas are in bloom for so short a time, two or three weeks at most. The smaller ones, such as Bumalda and its handsome variety Anthony Waterer, will, if the old blooms are kept cut off, continue to flower for two or three months. The plant here illustrated has been planted about twenty years. It measures 14 feet 8 inches in height and the circumference of its branches exceeds 50 feet. It illustrates what has often been contended for in THE GARDEN, namely, the advantage of planting these fine shrubs in the open, not choking and crowding them in shrubberies. One feature of S. arifolia is that a small number of its leaves turn crimson-red during the summer and much enhance its beauty.—J. H. W. THOMAS, Belmont, Carlow.

* * * The following three shrubs, viz., Pyrus japonica, Pyrus malus floribunda and Prunus triloba, will we trust, meet your requirements. We should be glad if any of our readers would let us know what they consider the three best.—ED.

THE USE OF FLOWERLESS CREEPERS.

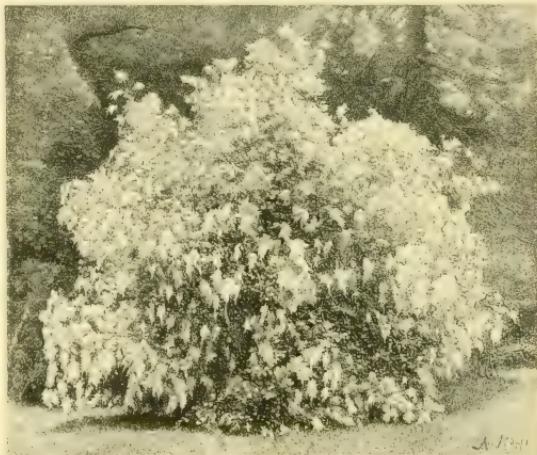
TO THE EDITOR OF THE GARDEN.

SIR.—It is of the rational use and beauty of wall climbers or creepers that I would write, because I believe, speaking broadly, the so-called flowerless creepers have been but rarely used, while they have undoubtedly added immensely to the freshness and beauty of the houses, gables and blank walls now so numerous everywhere. I do not altogether disagree with what "M. T. E." says on p. 228, but I am, nevertheless, perfectly assured that there is another, if not a better, point of view. There are, of course, some architects, and even some few rockwork builders, who object to see their work covered up by "beastly creepers," but, on the other hand, so long as there are and remain to us so many ugly buildings and miles upon miles of hard and bare walls without any pretension

to shape, form or fineness of workmanship, so long, I believe, the Ivy in all its varieties, and the various kinds of Virginian and Japanese Creepers and the Vine will have a mission to fulfil.

None of the creepers mentioned by "M. T. E." will do much towards the "ruining of walls and shapes of houses" if the houses are well and soundly built and of fair proportions in the first instance. I do not expect to see Burghley, Hatfield, Haddon Hall, or any really finely-built house ruined either in structure or form by any kind of plant life whatever. Fancy the elevations, the gables, the courts and quadrangles of Oxford or Cambridge without Ivy, Virginian Creeper or Vitis inconstans. Even the fine Tudor brickwork at Hampton Court gains quite as much as it loses by the creepers that cling or dangle from its warm red walls. Of course I freely admit that there are fine buildings of noble masonry rich in carved

Elizabethan houses, nobly-built churches and country mansions, at present more or less artistically draped with all the flowerless creepers he names and others, but stripped bare? Which, I would ask, is the more monotonous, vegetation such as is named at p. 228, ever changing as it is in form and size and colour or texture, or the noblest of buildings with its "sharp lines and delicate masonry" without any vegetation whatever? Again, on how few really large and fine buildings are the "flowerless creepers" named used alone? How often, on the other hand, do we find flowering and flowerless, evergreen and deciduous wall shrubs or creepers judiciously used together or side by side. Only the other day I saw a noble Elizabethan house of red sandstone covered with creepers from the basement to the eaves, but so good and true in proportion was the whole building, that the "sharp lines and delicate masonry" were felt to be there, and to my mind all



Spiraea arifolia. Engraved for THE GARDEN from a photograph sent by Capt. J. H. W. Thomas, Belmont, Co. Carlow.

work and other forms of appropriate decoration that it would be most unwise to cover up with vegetation, but, alas! there are, on the other hand, many ignoble buildings basely over-decorated that cannot too soon be shrouded in a mantle of living green.

The little really good architecture we have is so small in proportion to the architecture that is mean and ignoble, and it is so often in the care and keeping of those who appreciate it, that there is but little danger of its being ruined, or that its proportions will be destroyed by wall shrubs or creepers of any kind. As to Vitis inconstans, at Boston, Mass., there may be a sameness of effect produced by its general use there; but did "M. T. E." ever see the Boston houses before the so-called "Boston Ivy" mantled them, and when, as I am told, they were dreary, ugly and bizarre to an extent now-a-days not easy of comprehension? Would "M. T. E." propose that all our really fine historical buildings, such as the Norman castles, abbeys, cathedrals, finely-proportioned

the more perfect and satisfying because only occasionally revealed. In the case of buildings even of the best it but very rarely happens that "beauty unadorned is adorned the most." Even in the case of "ordinary modern houses with bare walls," no covering of flowering shrubs alone can be in all ways and at all times perfectly satisfactory, seeing that so many of our finest flowering shrubs are also deciduous ones. When we come to the question of the best wall shrubs, we shall find that either or any extreme will prove unsatisfactory. I mean that a judicious combination of evergreen and deciduous climbers is quite as essential as is the combined use of the so-called flowerless creepers along with the more showy flowered kinds. We may in all large and in many small places use some of the best kinds of creepers, viz., the evergreen, the flowerless and the flowering kinds together in due proportion, and, to my mind, the very best and highest results can only in this way be obtained. Are not the "bare branches of the Jasminum nudiflorum, the yel-

low stars of which light up a December day," all the more bright and beautiful as seen springing from a fresh and glistening green or bronzed background of one or other of the finer kinds of Ivy than they are as seen on a bare wall!

Although I do not go quite so far as "M. T. E." and advocate the planting of Ivy on north walls only, yet I am fully convinced that, as a broad rule, Ivy is shade-loving plant; the green kinds look fresher, and the golden kinds colour best on a north or northern exposure, and these facts cannot be too generally known. Far from being in any way antagonistic to the spirit of what "M. T. E." has so well and clearly written (p. 228), I to some extent am with him, but in all questions of this kind there is another way, as the old cookery books have it, and I certainly should never think of including the best forms of our native Ivies and *Vitis incognita* in a list of coarse creepers. The words "coarse" and "fine" are relative only, and, as the old proverb has it, "Everything is fine that is fit;" and all wall creepers of the best are fine if planted in the positions and localities best suited to them. When I call to mind the beauty gained by cottage and palace, by colleges, mansions and country houses of both farmer and squire all the way from Land's End to Aberdeen—owing to the appropriate use in many cases of flowerless creepers such as Ivy and *Ampelopsis* or *Vitis*—I really feel grateful to those who have used them so largely and so well.

Finally, I may say that, however occasionally they may perchance have been abused and neglected, yet, so long as bare and ugly walls and elevations and gables remain naked, so long will there be a mission worthy of being undertaken by the more extended planting of these so-called flowerless creepers.

F. W. B.

KITCHEN GARDEN.

TOMATOES FOR FLAVOUR.

In spite of the number of new varieties of Tomatoes which have made their appearance during the last few years, it is a fact that the majority of them, like the majority of new Apples, Pears and Potatoes, are in point of flavour far behind some of the older, though less cultivated sorts. A few years ago Tomatoes were not eaten, as a rule, except in a cooked state, and then the old dwarf Orangefield was found in almost every garden growing between the Peach trees on south, and Apricot trees on west walls; and I maintain that for exquisite flavour that ruggish sort has never been beaten, and as to cropping, all gardeners can remember how in fine sunny autumns the fruit hung like ropes of Onions from summit to base. Later on, when culture under glass commenced, this variety was still grown in pots, and when sold held its own against all comers. No sooner, however, did the community acquire the taste for eating the fruit raw—and the eye had to be pleased as well as the palate—that the smooth, symmetrical forms at once took the lead and have kept it ever since. As Mr. Iggersden truly remarks, the corrugated varieties are usually the freest setters and heaviest croppers, and, with the additional fact that many of them possess splendid flavour, I see no reason, but rather the reverse, why they should not be grown, at least in private gardens where Tomatoes are much in demand in the kitchen. Of course, as Mr. Iggersden points out, the market grower must go in for the varieties that command the

best sale, and these are alone found in the smooth, handsome forms; but I find that many customers of fruitiners in towns are complaining of the indifferent flavour of these handsome varieties, which was never the case when Hathaway's Excelson and Perfection were about the only two non-corrugated sorts which found their way into the market—two Tomatoes which those who have proved their worth are not likely to discard for perhaps slightly more showy sorts, whose chief characteristics are a hard core and an acid flesh. When judging at Derby last week I was pleased to see Perfection so well represented. The first, second, and, I believe, the third prize lots consisted of this variety, and these and other good dishes of it, which were not placed, for the competition was very strong, contrasted strongly with other sorts, such as Ham Green and Challenger, their appearance being altogether superior.

I am sure there is no difference between many of the so-called distinct varieties. No sooner is a good Tomato sent out than it is almost certain to be re-named by some unscrupulous firm. I have this year several varieties supposed to be distinct, but which I cannot detect the least difference in, either in habit of growth, shape, colour of fruit or flavour. Sensation I believe to be an improved strain of Perfection, and nothing else. Chemin Rouge is, I consider, a capital Tomato, taking on a deep red colour, and possessing a first-rate flavour. The want of colour in many of the newer sorts even when grown under glass is one of their chief drawbacks. I think all will agree with me in saying that Tomatoes grown under glass are, as a rule, of better quality than those even from open walls, to say nothing of those grown on open quarters trained to upright stakes. Although many who grow for market are compelled from lack of capital to go in for open-air culture, yet house culture, although incurring considerable expense at the outset, reduces the liability of disease to a minimum, and renders the certainty of finishing autumn crops tenfold greater than is the case with outdoor crops. Fancy a grower having half an acre or an acre of Tomatoes which look as well and promising as can be wished for up to a certain date, and then from lack of sunshine and continuous rains disease sets in and destroys the lot, and this is often the case. Cracking has set in badly in fruit on open walls in this district, and from what I hear, the rainy, sunless weather of the last fortnight is likely to cause great disappointment amongst open-air growers whose fruit was only just colouring when the rain came. Corrugated Tomatoes do not crack so soon or so badly as the smooth, round ones.

J. CRAWFORD.

Planting Asparagus in autumn.—I fully agree with all that "C. C. H." writes apernt the putting out of young Asparagus plants in early autumn. Although I should not select this time of year from choice, where pressure of other work or other circumstances prevented its being done or completed in spring, it may safely be done now. A season like the present is especially adapted for autumn planting, the young plants starting into active growth when the rains set in towards the end of August, and with the first new growths planting may be done very successfully.—C. H. D.

Winter Turnips.—Owing to the drought the crop of summer-sown Turnips will not be any too plentiful, and even where they have made a fair growth the roots in dry or poor soil are not worth storing for early winter supplies, as they are hard and flavourless. Few roots are so soon affected by heat and drought as Turnips, and where large supplies are required from November to early spring a late sowing will be found much better and keep sound till the spring sown come in. It

is surprising what rapid growth the roots make at this season, as the soil is warm and there is now ample moisture to support the young plants. I am aware large roots will not be obtained by this late sowing, but I do not find large roots desirable for winter supplies. If the bulbs are as large as cricket balls, they are large enough for keeping, larger ones losing flavour and growing out quickly. Another gain with late sown roots is their usefulness in severe winters, as if lifted in November and clamped or stored in a cool shed they are to great value. When sowing it is important of give an open quarter and good land. A quick growth being required, it is useless to sow on land just cleared of an exhausting crop. Such aids as burnt refuse of any kind, or a dressing of fish manure, will cause the roots to swell rapidly, and a quick growth means improved flavour. As regards varieties for early autumn use, few are equal to *Globe*. This is an excellent Turnip, and is so soon fit for use that I strongly advise it for present sowing. *Red Globe* is just the type for mid-winter use. If sown now, germination is rapid and the roots keep good well into the spring, and are of first-rate quality. I am a great lover of the Golden Ball type or Orange Jelly. It is one of the best to supply the table for late winter, keeping sounder than the white-fleshed kinds. I am sure it would find more favour if grown more largely for winter and early spring use.—G. WYTHES.

Potatoes.—I have lift'd Duke of Albany and Windsor Castle first and second earlies, and the crop is all one could desire both in bulk and quality. The former is a long way the better early Potato I have found, ready a little before Ashleaf—that is, tubers of fair size can be dug, as a rule, a week before Ashleaf is big enough; the quality is excellent and the crop heavy. None of the Ashleaf type can compare with it in this respect. Of Windsor Castle it is impossible to speak too highly. It is large without being coarse, nearly perfect in shape, shallow-eyed, and first-rate in quality. It is remarkable for the proportion of large tubers, the respective quantities of ware and seed are thus more than six to one. The crop of this Potato this year averages a little over ten and a half tons to the acre. One finds sometimes in connection with Potatoes of the imminent advantage pertaining to a change of seed. It may be advisable in some soils, but certainly not always necessary. I have grown Duke of Albany ten years and Windsor Castle since it first came out, and have always relied on home-saved tubers.—E. BURKE.

Spurious strains of Coleworts.—It is strange that seed of an inferior strain of both the Hardy Green and Rosette Coleworts is often supplied. Yet it is a notorious fact, and in gardens where ground is scarce disappointment with this most useful winter vegetable is doubly hard. I lately saw in a gentleman's garden what should have been a batch of each, but which, from their coarse, leggy character, were a disgrace to the firm that supplied the seed. The gardener informed me that they were the same last year, and that the majority of the plants, though transplanted in good time and given good ground, actually refused to heart in at all. He added that when living near London, where hundreds of acres are grown for market, he could always obtain the true Colewort.—C. H. N.

Growing late Peas without sticks.—In hot, dry summers like the one we have just passed through, where there is a dearth demand for green Peas, a lot of forethought is required to keep up the supply. This year I followed an old method I remember the late Mr. McLaurin, of Farnham. He used to adopt in his hot, dry soil, namely to sow a portion of his late Peas and allow them to run over the ground. He used to have good crops in this way. This year I adopted it more largely and am pleased with the results. When I sowed the last row of *Ne Plus Ultra* I also sowed a row of *Stratagem*; these I did not stake. They are most satisfactory, and will

continue to give a late supply. When I dug the first early Potatoes in the open garden I drew some drills and sowed several quarts of Peas, English Wonder, American Wonder, and Champion of England. These after watering soon came up, and although I did not give them any water afterwards they have done well, and now, middle of September, are giving a daily supply. Champion of England is just coming in and will continue till frost comes.—DORSET.

late Peas and mildew.—I am afraid that in low situations late Peas will not be very satisfactory. Owing to the continued rains and stale atmosphere mildew is very troublesome, and even on apparently healthy haulms the pods have not set very freely, many of them are deformed. Those who are expected to produce Peas throughout September must have an unfavourable garden for the purpose, should find a good broad bean resistor and then keep to it, for there is a vast difference in varieties in this respect. I used to consider Walker's Perpetual Bearer almost proof against this malady, but it is badly affected this season, while Autocrat, growing alongside of it, is so far free from it and yielding well.—J. C.

late attacks of Celery maggot.—Some gardeners of my acquaintance apparently ignore the attack of the Celery fly after growth is well advanced. I can assure you that even though the plants may have arrived at their normal size, much harm results from a severe attack, as defoliation renders them very susceptible to infection, even a moderate amount of frost, and is the forerunner of wholesale decay in wet weather. I always keep a watch on the Celery and hand pick as soon as the disfigurement appears. I have observed that attacks from this pest are more common in close rainy autumns than when the atmosphere is clear and bracing. Much of the Celery hereabouts is badly affected this season, and I hold that it would pay market growers, even with their large areas, to pay for hand-picking.—J. C., Notts.

CROWDED CABBAGE BEDS.

With much moisture after a protracted drought the growth of seedlings is more rapid, and in the case of Cabbage, or in fact any July or August sown Brassicas, the growth during the past month has been so vigorous that unless means are taken to give the seedlings room to develop there will be a weak plant unable to stand a severe winter. Short sturdy plants are wanted, and even now, if thinning has been delayed, it will greatly benefit the plants to remove a portion, to give those left room. I am not advising too early planting by this thinning out, as if planted too early there is another difficulty, the plants get too large, and if they do not turn in should the [winter be mild they often bolt in the spring]. The last week in September or early in October is soon enough to plant if the seedlings are strong and short-legged. On the other hand, where labour is scarce and the plants spoiling in the seed beds, I am sure much better results may be obtained by putting small plants into their permanent quarters than leaving them to become drawn. There is a mistaken idea that it is best to plant the seedlings when very small, but in the wet weather as the present there is little fear. It is in dry bright weather that there is difficulty. Even then I have found, assisting the plants by dipping the roots in a thick puddle composed of clay, a bundle of plants being held in the hand and the roots immersed. This dipping closes up the pores and preserves the tender rootlets. As we now have much rain there is no danger in planting much smaller seedlings if a sharp look-out is kept for slugs, and if the plants are placed in shallow drills it is easier to protect them also as a dressing of scot is readily applied. In bad cases I have used weak paraffin between the rows to advantage. In planting these early the coarse plants may be rejected and those of medium size retained for spring supply. Another point equally important to those who have time is the value of picking off the seedlings into rows, planting them in their

permanent quarters in three weeks. This is an excellent plan as it gives a much stronger plant, at the same time easing the seed beds. Transplanted seedlings seldom go wrong as they winter well and the plants come much earlier into use. I admit the transplanting takes time, but it is labour well spent. S. H. B.

Beech Cheltenham Green-top.—That form of the Pine Apple Beet known as the Cheltenham Green-top appears to be the favourite for market, but looking across a patch of it, the eye will rest on plants having patches of colour in the leaves, showing that the entire green leaved type need careful selection. Whoever selected this Beet deserves credit for the rigidity with which the work was done, for the stocks seen about the country are remarkably true, save an occasional flashing out of colour on some of the leaves. It is generally acknowledged to be a good keeping Beet.—R. D.

Tomato Chemin.—This has been very good on the open wall this season, and, as far as I can see, was as early as any of the so-called early varieties. With me it sets more freely than some. But it is not on account of the above having done well in the open wall, send me note, but on account of its heavy cropping when forced. In pots here it is all one may desire and a good quality fruit. I feel sure Chemin in many cases has been used to get new varieties, but I do not think that, with good culture, for weight of fruit and general usefulness it can be beaten. When planted out it is also an excellent cropper. Though I do not advise it for winter, there is no difficulty in having good fruits early in May if a pinch of seed is sown in January.—S. H. M.

Keeping Onions.—It is often thought that Onions require a frost-proof store, but such is not the case, as I find there is no difficulty whatever if the store is rain-proof and free of moisture. A dry store is essential, and, of course, to keep the bulbs, thin layers are necessary, as, if laid in heaps in the same way as Potatoes, the bulbs soon decay if the air cannot freely circulate round them. In a warm store there is loss by growing out and the flavour is much impaired. I would also point out the importance of keeping the bulbs dry previous to storing, as, if allowed to grow out a second time after the bulbs are matured, they never keep so well. During the severe weather of February, 1895, my Onions were in an open shed with merely roof protection, and did not suffer from the exposure; this shows cold does not harm them.—G. W.

Planting Lettuces in autumn.—Many Lettuces are lost during winter by too late planting, and in wet or unsuitable borders it is useless to plant too early, as a full-grown plant soon succumbs to severe weather. On the other hand, too late planting at a season the plants cannot make any roots is quite as bad. Many growers, who require large quantities of Lettuce in the early spring at a time they are most valuable, do not plant at all, but leave the seedlings in the seed-beds and thin out as in the year as the weather permits. Doubtless this answers in some measure, but with severe winters these plants are killed level with the ground. For years I have adopted the old-fashioned plan of placing at the foot of a warm wall or on a raised border, as early in October as possible. The plants must be short and not drawn in any way. Firm planting is also essential, with the assistance of a little dry Bracken—the best protector; allowing the Bracken to remain over the plants after a severe frost till thawed, there are few losses and a welcome supply in spring.—S. M.

Cucumbers in pots for winter fruits.—I have tried most systems for winter fruiting, and the greatest difficulty with those who have a deficiency of heat is the loss of roots just as the plants are in full bearing. When manure is used heat is soon lost and the plants collapse. It may be urged that unless growers have every convenience it is useless to grow winter Cucumbers, and as many are obliged to grow under difficulties I

would advise 14 inch or 16-inch pots, planting early to get a liberal top growth, and not fruiting till the trellis is well covered. By using pots it is an easy matter to renew linings when more warmth is required without interfering with the roots, and it is much easier when pots are used to feed, as the food given is not lost, as in a large border. Many fail by fruiting too early before the pots are full of roots, but if there is a good top growth, and the plants continue to make new wood there is no reason for this. It is better to secure as many surface roots as possible. These are best obtained by frequent top dressing with rich soil and such aids as bone meal and dry cow manure. As long as there are healthy surface roots there will be good fruit.—S. H. M.

Some good Potatoes.—It is a pity that a potato exhibition on rather a large scale could not have been organised for the present season, for the crop is above the average, and individual tubers are very fine and clean. The disease is, unfortunately, strongly in evidence in low-lying gardens, especially among the strong growing varieties, but on higher ground and lighter soil from which the water gets away quickly there is very little the matter. Bearing in mind the experiences of two very dry seasons, I would advise to dig up and cover planting, and early and more pronounced earthing. The result is decidedly satisfactory, the crop being all one could desire. There is no doubt that given a light sandy soil there is a great advantage in getting sturdy, robust growth early in the season. A recent note deals with the crop obtained from Duke of Albany and Windsor Castle. Both are keeping well, and of excellent quality. The former has quite established itself as a first early variety. Alike for earliness, quality, and from a cropping standpoint I can find nothing to beat it. The variety (presumably Duke of Albany) came to me in rather a curious way. Some ten or twelve years ago I purchased some seed of Cosmopolitan, and among these when fully grown were some half dozen very distinct roots that yielded a fine crop and proved very early. Every tuber was saved, and the sort thus acquired has been grown ever since from home-saved seed. Those who require in a first early a dwarfer habit amenable to closer planting cannot do better than try Star of Reading, a very early and fine cropping variety. King of Russells does remarkably well with me, and the crop has this year averaged a little over 12 tons to the acre, the tubers large, clean, and shapely, and the percentage of seed size only about one in eleven bushels. Other varieties, The Bruce and The Saxon, are not yet lifted, but a root trial of each indicates an exceptionally heavy crop. The latter is a new variety to me, and I hope to report later as to its merits. If it is as good as it looks, it should prove a sterling late sort.—E. BURRELL.

GOOD AUTUMN CABBAGE.

MANY do not grow specially for autumn supplies, but I think there is a great gain in so doing, as one gets better material, which is free of the dreaded caterpillar. I am not much in favour of leaving Cabbages planted at this season to give a second crop the following spring. I have seen excellent winter heads may be had in twelve months from time of planting, but is it well to allow a crop to rob the ground when Colewort can be had of the best quality in one quarter the time? I find much better results can be obtained by growing autumn varieties. My first, and what may be termed reliable selection, is the St. John's Day. It may be termed a medium-sized variety, but with good culture it is large enough for all purposes. In shape it is of the Drumhead type, with a very dwarf stem and dark green leaves, these being folded closely over each other. When cooked it is equal to the best spring Cabbage. It is valuable from now up to Christmas, and not for sprouts or spring cutting. It will stand early frosts better than the Colewort, as it is more protected by its folding leaves. For sup-

plies at the season named I sow in June to get small, compact heads. An earlier sowing will give larger heads, but I do not care for mere size, and I find those sown at the time named keep grandly. For cutting through September and October, early April sowings are advisable. This variety is largely grown in the Maidstone district. I notice there are special classes for it at the autumn shows, and some splendid produce is staged. It is a variety little grown in some parts, but owing to its distinct character it is worth extended culture. Another very fine autumn variety is Little Gem. This sown in April and May produces compact heads through August and September. It is a very dwarf grower and an excellent variety in dry seasons, as the head being so close to the soil keeps the ground cool and moist. This is distinct from the Colewort, being smaller and earlier. The "Dwarf Scarlet" Sutton's Favourite, sent out in 1894, has proved one of the most valuable autumn kinds. This is larger than Little Gem, but intermediate between that and St. John's Day. It is cone-shaped and very solid. It is also recommended for autumn sowing, but its value, I think, is for spring sowing. This does not split in wet weather, and in quality it is equal to an early variety, and being so compact in growth, it takes up little space.

G. W.

NOTES OF THE WEEK.

Chelone Lyoni.—This distinct late summer and early autumn plant continues to produce its rather quaint flowers of a deep rosylilac or magenta shade. The plant is of sturdy and vigorous habit, requiring ordinary loamy soil to grow it well.

Anemone japonica elegans.—For the variety it affords when associated with the red and pure white, the above is always valuable, and grows in fine condition in a warm sheltered spot. In more open spots the white variety has suffered considerably. This is to be regretted as its place in the garden cannot be filled by anything so good or pure.

Aconitum japonicum.—Compared with the other species in this genus, this is a dwarf and sturdy plant, only reaching 2 feet or so high, and producing its deep violet-blue flowers long after the other kinds have ceased to bloom. Indeed, its usual flowering time is September, and at this time its colour is not frequent in the border. We noted it the other day flowering quite freely.

Helenium autumnale grandiflorum.—Among many fine things at the Hale Farm Nurseries this is making a capital display of its pure yellow blossoms that seem capable of enduring wet and wind and cold with impunity. Not only is it a useful hardy perennial for the autumn months, but it is likewise valuable for cutting, the clear yellow of its flowers improving considerably in water.

Carnation Yuletide.—I send you a few blooms of my new perpetual Carnation Yuletide. The blooms were taken from plants that have been flowering continuously since September, 1895.—JOHN FORBES, Hawick.

* * * The flowers of this variety are of a rich scarlet colour, well formed, and with little splitting at the calyx. It appears to be of strong vigorous growth.—Ed.

Two good Tufted Pansies (yellow) and Blue Bell. Both these I lately noticed flowering freely on a heavy soil, in which Blue Bell seems to be of specially high colour. In the trial of these plants to be conducted at Chiswick during the ensuing year, it is to be hoped that, apart from summer effects, some notice will be taken of endurance into the autumn, a matter of great importance in relation to plants used for flower gardens.—D.

Echinacea purpurea.—Quite recently we noted this fine perennial in excellent condition at the Hale Farm Nurseries, where its richly coloured

flowers are a great attraction. The plant appears singularly at home in these nurseries, for even in the last days of September the blossoms were both large and fine in colour. Few hardy perennials are so exceptionally distinct as this one, and when it is stated that the plants have been flowering for fully a month, some idea of its value in the border at this season may be formed. The plant delights in deep rich soil.

Chrysanthemum (Pyrethrum) uliginosum.—Tall handsome bushes of this well known plant are now crowded with flowers that are about 3 inches across. The florets are not pure white, while the rather large disc does not improve matters. There is plenty of room for and much need of a good pure white form of this plant. Where a dwarf bed of it is desired, this may be secured by cutting the plants down to within 6 inches of the ground early in June, the plants so treated eventually blooming at about 3 feet high, while the flowers are as large as ever and equally numerous.

Carnation Winter Cheer.—For the greenhouse in early autumn this variety is undoubtedly the brightest and most effective of the scarlet shades. It is so much more easily grown than the majority of Carnations included among perpetual kinds that all who have a greenhouse should grow it. Not only is the plant very attractive in disposition, it should not be grown in too rich a soil, and pots of 6 inches diameter accommodate it quite well the first season. Cuttings rooted in January last are now fine plants, many of which are carrying three or more blooms. It is also an excellent kind for beds in the open.

Begonia Westerbilt.—Seedling.—I lately saw a number of the seedling Begonia in full bloom. This Begonia belongs to the old Emperor type and quite eclipses the large flowering kinds. The flowers are rather long, with pointed petals of the loveliest coral-red colour, and are produced in the greatest profusion well above the foliage. It is far in advance of any of the fibrous-rooted kinds because of its decided colour, which is so desirable in a Begonia. I think this lack of bright colours in the fibrous-rooted Begonias is a great loss, and must tell against them in time to come. Although I have tried most of them in the flower garden in many different ways, I have never been pleased with the results, the colours (which are mostly pink and dull rose) are not telling enough.—T. A.

Pear Triomphe de Vienne.—In THE GARDEN (p. 256) "C. C. H." asks if any of your readers have any knowledge of the above Pear. I received Triomphe de Vienne amongst a number of other varieties from a French nursery about nine years ago; since then I have had ample opportunity of testing its value. I consider it second to none in point of flavour, not even that good old sort Jargonelle, which, by the way, it follows in order of ripening. I grow it side by side with Souvenir du Congrès, but for quality the latter is far behind; in fact, I consider S. du Congrès has little but appearance to commend it. In any case it cannot approach Triomphe de Vienne. I have showed it on two separate occasions, and each time it has been awarded first as the best Pear of its season (September). I can recommend it to "C. C. H." as a capital variety. I see it is taking its place in the fruit lists of all our best nurseries.—E. D.

Notes from Baden-Baden.—*Galanthus Olga Regalis* opened its first flowers on September 16, notwithstanding the cold and wet season, thus establishing its position as the very earliest of Snowdrops. Close by the delicate blossoms of *Crocus vallicola*, dressed in creamy white, attract attention, as also does the deep-cut, singular-formed, and marbled foliage of a new *Anemone* or *Delphinium* from Persia. A border is gay with various species of *Colchicum*, *Sibirbori*, *rigatum*, and autumnal fls. also *plumbago* being the best. *Sternbergia macrantha* is very good just now; moreover, it has not the advantage of being backed by the bright green leafage of *Sternbergia lutea*. *Hedysarum tauricum*, with Pea-shaped,

bright purple flowers, promises well as a new garden plant. *Gerbera Jamesoni* is flowering freely, but the colour is not so rich as last year, the effect of the rainy, cold weather being felt everywhere.—MAX LEICHTLIN, Baden-Baden.

Argemone hispida (Prickly Poppy).—This very striking member of the Poppy family is now in flower. In its general aspect the plant is very picturesque, the leaves and stems remarkably spiny and rough, the former being also armed with stout prickles. The stout stem attains 2 feet to 3 feet high and is terminated by a cluster of buds. When fully expanded the flowers are of the purest yellow white, with a cluster of yellow anthers surrounding the ovary, thus giving it a handsome appearance. Though stated to be perennial—indeed, in its native habitats it may be so—it rarely can be called so under cultivation in England, and is best treated as an annual or a biennial. By sowing the seed in a greenhouse or frame Jamesoni prefers a dry and sunny position and a warm spot in May; good flowering plants result in the autumn following, or, if sown late in summer, in frames in a dry and sunny spot in spring. Thus treated, these plants create quite a distinct feature in the higher and drier parts of the rock garden—a position well suited to them. The flowers are each fully 4 inches to 5 inches across, and very effective in a group by reason of their exquisite purity.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

ON Monday evening last a meeting of the general committee of this society was held at Auderton's Hotel, Fleet Street. Mr. B. Wynne occupied the chair, and the attendance of members was good. Immediately following the disposal of the usual preliminary business a motion was carried unanimously that the president be requested to convey to Her Majesty the Queen the hearty congratulations of the members on Her Majesty's long and prosperous reign, which has now exceeded that of any previous monarch of the country. The awards made to the exhibitors of miscellaneous groups at the September show at the Royal Aquarium were submitted for confirmation.

The secretary presented a rough report of the financial condition of the society, which showed a distinct advance as compared with that of the same period last year, but he explained that more support was needed to carry out in its entirety the programme of the jubilee festival in November. Subscriptions to this fund are still earnestly solicited.

The annual dinner of the society will take place on November 26, and the floral committee will hold their annual luncheon on the last occasion of their meeting in December. Mr. Moorman proposed that tickets for the annual dinner be presented to the representatives of the gardening press. New members, numbering forty-two in all, were elected, and four societies admitted in affiliation. The roll now stands at 840 members and 135 affiliated societies. The secretary appealed to the meeting to do their utmost to bring up the number to 1000 during the present year, which he considered would be a gratifying result of the society's work.

Crystal Palace fruit show.—I regret to note that the great exhibition of British grown fruit now being held at the Crystal Palace the fruit packing classes are entirely abandoned. It seemed two years ago, when these classes were established and lectures were given during the exhibition on fruit growing for profit and fruit packing for market, that the society were determined to expend at least some portion of their energy in endeavouring to inculcate a taste for fruit culture among a wider circle of land occupiers, and to teach the grower the vital necessity of scrupulous grading and careful packing in

marketing his produce. At the show last year there were twenty-five entries in four classes, an average of six entries per class, viz.: Apples, three entries; Grapes, seven entries; Peaches, seven entries; and Pears, eight entries. The packing exhibits were decided advance upon that obtainable in the preceding year, and the entries were more numerous yet in the face of these facts the society (or its schedule committee) appears to have speedily tired of its praiseworthy attempt to encourage the grower for market by offering premiums for high-class packing, and has practically devoted all the prizes to gardeners and nurserymen. I know that there are others besides myself who are disappointed at the abolition of these "educational" classes after such a meagre trial, and I trust that the committee may see their way to reintroduce them into the 1897 schedule.—S. W. F.

PUBLIC GARDENS.

Richmond Park.—The town clerk of King's Lynn has received a letter from Her Majesty's Office of Works stating that details of the proposed alterations to the local entrance to Richmond Park have not been decided upon, and will not be settled until an available sum has been placed at the service of the department by Parliament.

The proposed earlier opening of Kew Gardens.—The Richmond Town Council have received a letter from Her Majesty's Office of Works, stating that the First Commissioner has carefully considered the points raised by a deputation which recently waited upon him in reference to a proposal for earlier opening of Kew Gardens, and that, whilst fully appreciating the advantages which would accrue to the public by advancing the hour of opening, he is not prepared, in view of the interference which would be occasioned to those engaged in scientific research, to make the experiments under present conditions. He will, however, most willingly consider the whole matter before next year to see if any arrangements could be made which would secure the quiet of the gardens for students and at the same time meet the wishes of the public generally.

A glut of fruit.—Owing to their abundance this year, Apples and Pears in South Lincolnshire are remarkably cheap. The winds of September have literally stripped the orchards, and the best fallen Apples are not making more than two-pence and threepence a stone, while a considerable quantity of bruised fruit is practically unsaleable.

L^e Chrysanthème.—This is the title of the new journal of the French National Chrysanthemum Society which has come to hand within the last few days, and which is to be its official organ. Although at first only a monthly publication, it is hoped to make it a monthly one. The present number contains an announcement of the society's first conference, which will take place at Bourges on November 7 next, the text of a circular to seedling raisers on the subject of nomenclature, lists of the officers, committees and members, the rules of the society and a few literary contributions by the secretary (M. C. Albert) and M. Fatzer. A special notice of the jubilee *fête* of the English N.C.S. is also given.—CHY-SAN.

Early frost in Notte.—Although it is to be hoped that the severe frost which occurred in the first week in October last year will not be repeated in 1896, yet the fact that we had last week a slight frost should serve as a warning to gardeners and urge them to protect tender things in the open by temporary means. Late-arrived batches of French Beans, if important, should, where the beds are in quite a young state, be protected at night, also Marrows where the plants do not cover too great an area. A little forethought in this respect, which incurs no more than, say, a day's labour, is always amply repaid, even if the weather holds

open till November, as the gardener with a large kitchen to supply can sleep with an easy mind. Any Calais now in the open ground will be lifted without delay, as a slight frost practically ruins them.

Where small lots only of Chrysanthemums are grown, and no fruit house is yet out of leaves, it will be wise to erect a skeleton framework over them and cover them with canvas at night as growth is very slow this year.—J. CRAWFORD.

The weather in West Herts.—The past month was in many respects a very remarkable one. Taken as a whole it was about reasonable in temperature. Nearly all the days, however, were more or less cold for the time of year, while the nights, on the other hand, proved, with very few exceptions, unusually warm. Consequently the range in temperature between the lowest night and highest day readings was, as a rule, singularly small. Rain fell on all but seven days, and to the aggregate depth of 6½ inches, which is nearly 4 inches in excess of the average for the month. The rainfall records for this neighbourhood, which now extend over forty years, show that there has not occurred as wet a September during that period. In fact the only wetter months have been October, 1865, August, 1878, October, 1882 and October, 1891. There was very little sunshine, the mean record amounting to only about three hours a day, whereas four and a half hours a day would be nearer the September average. The air was, moreover, singularly damp for the first autumn month, and at mid day more humid than in a sea-coast October.—E. M., Berkhamsted.

OBITUARY.

MR. WILLIAM BROCKBANK.

In the recent death of this well-known Lancashire florist, THE GARDEN loses an occasional correspondent whose articles were always pregnant with keen observation and good sense. Those who knew him best were well aware of his sympathetic heart and kindly disposition. He displayed this by taking an active and unobtrusive part in the furtherance of local objects relating to the welfare of the people, and especially in the matter of a water supply, and other sanitary undertakings. At one time, actuated by a desire that those among whom he lived should see something of the flower treasures he had at Brockbank, he threw open his gardens and grounds on Sunday afternoons, but the privilege was abused rather than appreciated, necessitating its withdrawal.

At Brockbank he grew a very extensive collection of plants; it is computed that he had two thousand species with varieties almost innumerable. Some of the leading florists' flowers were his especial pets, particularly the Auriculas and the gold-laced Polyanthus. Of the latter Mr. Brockbank raised Black Knight and Black Cap, both of which received first-class certificates at Manchester in 1886. Regina and Ensign are still at Brockbank, and the Heliotrope plants are still at Brockbank. Mr. Brockbank not being able to knowledge put any of these into commerce. Many other species of Primulas found a congenial home there, and were well cared for, as he had ample facilities for growing them well. Mr. Brockbank also had a large collection of Saxifragas, from some of which he obtained seedlings, a fine lot from S. McNabianus, but he seemed to care very little about showing his productions in public. He was a great admirer of Narcissi, and raised seedlings. He may be said to have demonstrated the fact that it is possible for double forms to reproduce themselves from seed. The Hellebores and the Leucojum were in considerable numbers, and I think it may be claimed for him that, in his contributions to the press, he did indeed assist to clear up a good deal of the confusion at one time existing in regard to these genera. Mr. Brockbank would often appear in print, maintaining with great vigour the impressions he had formed as to certain plants, and though he was sometimes incorrect in his statements, he yet assisted to

solve some of the difficulties surrounding the nomenclature and culture of plants.

By profession a surveyor, he and his partners in business carried out numerous important works, having a large practice in surveying for railways. The survey of the Manchester Waterworks was made by them, and in the preliminary surveys for the Thirlmere scheme they took a leading part. High class educational movements found in him a warm supporter, and he was an active governor of the Royal Institution of Manchester until it was transferred to the corporation. Mr. Brockbank was a diligent student of science, a Fellow of the Linnean and Geological Societies, and a member of the Manchester Literary and Philosophical Society. He contributed many papers on botanical and geological subjects. Among others was a full and detailed account of the section exposed in the railway cutting between Levenshulme and Fallfield, illustrated by diagrams of strata, and showing the passage from the Permian formations to those of the upper coal measures.

R. DEAN.

Cutting down a dividing hedge.—The hedge between my neighbour's garden and mine has grown to the height of 6 feet 6 inches. I commenced to cut it down to 4 feet 6 inches when my neighbour sent in to tell me to stop cutting it down. Am I compelled to allow the hedge to remain as it is? I cannot grow anything near—A. W.

Assuming that the hedge belongs to your neighbour, if it overgrows a portion of your ground you can call upon your neighbour to remove the encroaching shoots and can do so yourself if he does not; but you have no right to cut down the hedge merely because it overshadows your garden. You should try to come to a friendly arrangement with your neighbour. If the hedge is your property you can of course deal with it as you like.—E.P.

Galls on Oak leaves (*J. Mallett*).—The galls on the Oak leaves are formed by the grubs of one of the gall flies, *Spathaspaster baccharis*, but they produce a gall fly which is different in appearance in many ways, and known as *Neuroterus lenticularis*, which emerges from the flat galls or spangles as they are often called in the spring and lays its eggs in the male flowers of the Oak. The action of grubs feeding on the flowers causes the growth of the little galls known as currant galls, from their resemblance to a bunch of currants; the flies from these galls lay their eggs beneath the skin of the undersides of the leaves, and the grubs cause the growth of the spangles. These galls seem very abundant this year; all the leaves of some young trees in Staffordshire are covered with them.—G. S. S.

Names of fruit.—*W. Riggs*.—Apples, 1, Beauty of Kent; 2, Newton Wonder; 3, not recognised; 4, Waltham Apple; 5, New Haworthian; 6, Golden Noble; —G. 1, Pears, 1, Bellisima d'Hiver; 2, Unripe; 3, D'Anjou; 4, D'Amiens; 5, D'Angers; 6, Clémentine; 6, Vican; 7, Maréchal de la Cour; 2, Beurré d'Amanlis; 3, Broom Park; 4, Brown Beurré; —P. Lake—Pears, 1, Maréchal de la Cour; 2, Beurré d'Amanlis; 3, Broom Park; 4, Brown Beurré; —F. W. Parker; 1, Collini; 2, not recognised.

Names of plants.—*Anon*.—Bignonia jasminoides; —T. Wilkinson; 1, Kleinia repens; 2, *Pachyphyton bracteosum*; 3, *Sedum acre* var. variegatum; 4, *Scrophularia nodosa*; 5, *Franseria caerulea*; 6, *Bartsia* better specimen; —W. Easton. A good form of *Lolium perenne*, not at all uncouth.—B. J. T.—The Siberian Crab (*Pyrus baccata*), a good form.—Morton, *Hecceford*, 1, *Cupressus Lawsoniana* gracilis; 2, *Cupressus nootkatensis*; 3, *Abies Webbiana* var. *Pindrow*; 4, *Cedrus Decidua*; 5, *Cupressus Lawsoniana* gracilis; 6, *Bubo orientalis* var.—E. Edwards.—*Tritoma* (*Montbretia*) *Pottsii*; —S. G.—*Barberia dulcis*; —J. C.—*Spiraea* sp.; —J. McClelland.—*Amaranthus reticulatus*.

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No. 1299. SATURDAY, October 10, 1896. Vol. L.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

FLOWER GARDEN.

NARCISSUS MOSCHATUS.

MR. BURIDGE (p. 247) rightly calls this an exquisite little plant. From what I hear, it is greatly to be feared that it is on the point of being exterminated in its native places, and that we are therefore likely to lose it altogether, for the gardens in which it will grow are few and far between. In my own, despite all my expedients, it entirely declines to live, dying out in its second or third season even when planted in grass. I can flower it in great perfection from seed, but the bulbs do not last after blooming. I do not doubt that this plant is the wild ancestor of our garden white Daffodils—*N. cernuus*, *albicans*, *tortus*, &c., for not only are flowers matching these in shape severally to be picked out of the wild plants as imported, but I have myself raised, directly from the wild plant and without the intervention of any larger garden variety, seedlings fully as large in bulb and flower as these garden kinds. One, indeed, still growing and fairly healthy with me, is larger in both bulb and flower than *cernuus* or *albicans*. As to the origin of *N. montanus*, my own actual experiments led me to remark, in a paper printed in the R.H.S. Journal, vol. xvii., August, 1894:—

From the white trumpet Daffodil—*N. cernuus*, *albicans*, &c., and *N. poeticus*, I have founded a large number of seedlings which probably represent all the forms of *N. Leodeli* now in cultivation, and among them flowers not separable from *N. montanus*. I feel sure that this was named and brought to our gardens by some traveller who chanced upon it in a mountainous, perhaps Pyrenean, locality where *N. moschatus* grows in juxtaposition with *N. poeticus*.

I have actually crossed the wild *moschatus* with *poeticus*, and have once or twice showed at R.H.S. meetings the result, in a series of small *montanus*-like flowers, of drooping habit, and in colour varying from pure white to shades of apricot or salmon in the corona. I much regret that these have almost entirely died out. The record of one of these and of its mountainous-like character will be found in the R.H.S. Journal, vol. xvii., part 1, p. 14.

The only consideration which has led me to suspect the existence of wild, white trumpet Daffodils larger and robuster than this little Pyrenean plant is that the seedling offspring of the latter does not show the permanent vigour of *N. cernuus*, &c., of our gardens. But even in *N. cernuus* and its fellows this vigour does not endure long in my soil, and it may be that my seedlings from the Pyrenean *moschatus* would have made themselves more at home elsewhere, say in the south of Ireland, where climate and soil seem favourable.

G. H. ENGLEHEART.

Iris Hartwegi.—I am told by Max Leichtlin that the whole secret of growing Iris Hartwegi successfully lies in the fact that it cannot bear to be moved when at rest, but that in the month of April it can be divided and transplanted very easily. This exactly accords with my experience in Ryde, and I feel sure it is quite right. It may be of interest to my friend "J. C. L." to have a verification of the idea I expressed, and if all be well both he and I must try again in the month

of April next, if we can get hold of the right thing at the right time of year.—H. EWBANK.

Phormiums.—Two varieties of the New Zealand Flax are grown at Buxted Park, being planted out in the form of large clumps on the grass in a sheltered position in the pleasure grounds. Last winter the whole of the plants stood unharmed, but when hard weather is imminent, Mr. Princep lifts each one with a big ball of soil and lays it on its side under the adjoining masses of Rhododendrons, covering up with Fern and replanting in the spring. Both *tenax* and *Colensoi* have bloomed and seeded freely.

Adonis vernalis.—Attention is directed to this beautiful spring-flowering plant at this season, because in many gardens this is found to be the best time for planting. Particularly does this apply to light soils. It is also at this season of the year that hardy plant dealers are receiving large importations of this in company with *Cypripedium Calceolus* and such things. Under these circumstances there are many advantages to be gained by intending to enter into the culture of this plant, especially as it is not difficult to get their supplies without delay. Too frequently the planting of this beautiful subject is deferred till spring, when the plants are in flower, and small, unestablished pieces have then but little chance of success. In collecting this plant, in common with many others, the plants are frequently torn out and a mere stump of their former roots left. Needless to say, there is always difficulty in getting such pieces to grow. It is worthy of remark, however, that these pieces, if placed somewhat thickly together in cocoanut fibre in shallow boxes, keeping them rather moist, soon push new roots; whereas in the soil, and particularly heavy soil, these old roots very often perish. I have repeatedly used cocoanut fibre in planting this *Adonis* in heavy soil and with excellent results. In this part of Middlesex in a light loamy soil this plant grows and flowers with great freedom, the roots often descending 18 inches into the earth where the soil is rich and deep.—E. J.

Carnation Uriah Pike.—Mr. T. Smith's notes on the distinctness of this plant have much astonished me. There is nothing more vexatious to me than to receive, after loud advertisements, an old friend under a new name. But in Uriah Pike, in favour of which all other red Cloves have been dismissed from my garden, it seems to me—and I have had it ever since it was first obtainable—that we have an absolutely distinct and quite first-class Carnation. To leave out of view its pronounced tree habit, and to follow Mr. Smith in writing of it as a border variety, I have found it in form, colour, and scut of bloom and in foliage entirely new and different from any *Carnation* I have seen or grown. This part of England, I suppose, Mr. Smith's "smooth-edged Clove" is something not generally known. Of course border Cloves properly so called, I know only three, viz., (1) the crimson Clove, which is slightly more clear and more crimson in its colour than Uriah Pike, rougher in edge, and prone to burst in a proportion of its flowers; moreover, it is different in colour of foliage from Uriah Pike, and entirely deficient in the latter's habit of continuous flowering until frost. (2) Paul Engleheart, a very dwarf plant, growing almost like the common white Pink where it does well, which is not everywhere. This I did not raise, but found in a Worcestershire cottage garden. Its flowers burst a good deal, and it does not flower in autumn, but is very fragrant. (3) A variety not good in my garden. Its foliage is very abundant and coarse, and throws up only one spike of bloom, dull in colour, and scarcely scented. This was given to me many years ago under the name of Limber Clove. We certainly have no Clove Carnation in the southern half of England which is at all similar to Uriah Pike. If such a plant has long been known to Mr. Smith it is a very great pity he has not given us the benefit of it before this.—G. H. ENGLEHEART.

Having grown the above Carnation from the time it was first distributed, and also the old crimson Clove for upwards of twenty years

in large quantities, I think I may claim to know something about these two fine border plants. However good Uriah Pike may be as a pot plant for winter flowering, it certainly is equally so as a border plant. The fact that Uriah Pike is such a fine winter bloomer should convince Mr. Smith that it is quite distinct from the old Clove. The following are some of the chief characteristics of the two plants under notice. The true old Clove is a dwarf, sturdy plant, with broad leaves not unlike those of the old buff *Malmaison*, and very liable to "spot" in damp weather, in fact it has already begun. The flower-stalks seldom exceed 18 inches in height; the flowers are very double and somewhat confused in the centre, frequently streaked and splashed with white, and the first flower frequently bursts the calyx. The flowers are also noted. Uriah Pike has a good deal of the so-called tree character about it, viz., more laxly in growth, the flower stalks frequently attaining to a height of 3 feet. The flowers are full but not confused in centre, but the petals are well formed and smooth and not so strong, but very delightful and quite as sweet as that of the old Clove. Except in colour, and to some extent in perfume, I fail to see the slightest resemblance in the two plants. Uriah Pike is unquestionably the more useful of the two. At the present time I have some fine flowers open in the house; these are old plants, and these same plants will continue to bloom for several months. In Uriah Pike I think we have one of the finest border plants we could possibly desire. My plants came through the past two winters better than any other Carnation in the garden, and I grow several thousands in a great many kinds.—T. A.

TUFTED PANSIES AT THE BOTANIC.

THE executive of the National Vicia Society are hard at work preparing for a very extensive trial of Tufted Pansies next season. A small sub-committee has been appointed to see to their proper cultivation, and has already met and determined which of those grown in the Royal Botanic Gardens during the past season are worthy of further trial. A number of synonymous sorts has been agreed upon, and these, together with a goodly list of older kinds and others not possessing any particular merit, have been passed over. A number of many of the beautiful varieties which are deserving of being brought into more prominence. About a dozen cuttings of each sort have been taken, and as the number of varieties still retained consists of some 210, the promise of a somewhat large trial is in these means ensured. The council of the Royal Botanic Society has very kindly provided sufficient accommodation for the propagation of several thousand cuttings, so there should be little difficulty in obtaining a nice representative lot of each variety when the spring planting season comes round. The effect of the late trial was very considerably lost by the system of planting out, all colours being mixed together and no effort made to secure harmonious colouring. Self, fancy, or blotched flowers were planted alongside each other, and the beauty of the alongside blossoms was also by these means lost eight of. In a trial of this kind the best results are more likely to be achieved by planting varieties of a colour together. In this way it would be a very simple matter to determine which variety was best for bedding or for exhibition. The relative value of the different varieties for their colour alone, and also to test their value for the flower garden when taking into consideration the value of their respective habits, would be a matter that any ordinary observer would determine for himself; and if it would be wise to keep the selfs of each colour together, what better could be done than to place the fancy sorts of a shade with one another and the exquisite marbled flowers by themselves? Under such conditions the trial would be one worth seeing, and should be more popular with the ordinary gardener than the one which has just concluded.

The report of the papers read at the conference in the Royal Botanic Gardens in August last is to be issued in book form, and as this embodies the report of the committee of the trial, and also of course the selections then made, this little publication should be in the possession of all interested in this useful hardy flower. The hon. secretary would, I feel sure, be pleased to hear from anyone wishing to send varieties for trial, especially so as it is the aim of the society to make the trial useful to all growers of the flower. Regarding the trial of 1896, everyone will acknowledge that the plants, in the end, did extremely well, and, considering the long-continued season of drought, it was remarkable how very quickly they recovered after experiencing cooler weather during the latter period of the trial. A timely mulching of decayed leaf soil was highly beneficial, and contributed in no mean degree to alter the whole state of affairs. One distinct advantage of a further trial will be that of giving several promising sorts another chance of establishing themselves in the public favour. Many of these, owing to a variety of circumstances, never did well, yet they are known to several private growers who make a specialty of the flower to possess most desirable qualities. Under ordinary conditions these sorts are sure to stand out above many of the others, and as they are equally well adapted either for the flower garden or an exhibition varieties, we are less likely to hear complaints about affording facilities for the increase of sorts unsuited for the flower garden.

D. B. CRANE.

FLOWER GARDEN NOTES.

ONE of the most noticeable departures in flower garden work within the last few years has been the selection of certain specialities, doing them thoroughly well and making them the most prominent feature of the garden; and although the lover of hardy flowers would perhaps prefer such things as Roses, Lilies, Carnations and the like, the more tender things are so remarkably well done and the display afforded is so effective, that one cannot help admiring them. Take Begonias for instance; one might cavil at the huge drooping flowers whose faces were always hidden, and, which, unless protected by a carpet of greenery, were splashy and dirty with the first heavy rain. The erect flowering types are different, and, so far as medium-height plants are concerned, they have been about the brightest of September flowers. Some time ago, in the trade and private growers, as Mr. Geeson, who chronicled his experience in a recent number, seem to be improving the doubles in the direction above noted, and there is evidently a fine future for such a type. How to grow the erect singles thoroughly well was shown last season at Hampton Court by some remarkable plants of a rich glowing scarlet, that must have been 2 feet high and as much in diameter. They were planted thinly on a carpet of Koniga variegata, and were dense bushes simply a mass of bloom. Fuchsias are now quite a specialty in many gardens, and, can, in the many varieties of dwarf and slight or strong, robust habit, be utilised if necessary for beds of all sizes. If those in authority at our leading London parks were not responsible for their introduction for this purpose, they have given a wonderful impetus to their cultivation alike in the splendid plants provided and in the admirable manner in which they are planted. Above all plants, a Fuchsia should never be budded up with other things. Provide a shapely plant and give it plenty of room, and success is certain. In comparison with Begonias they possess the merit of standing the autumn rains well, and will flower till the advent of frost. I think the singles, or, at any rate, small flowering doubles, are best for the winter. Doubles of large ones of the Phenomenal or Frau Emma Topfer type are too heavy. Paris Daisies, both the white and yellow, are excellent specimens, and their freedom and endurance are unsurpassed. Alike for a large bed or long borders an excellent effect can be produced by plant-

ing them very thinly on a carpet of dwarf Begonias of the semperflorens type. It must not be forgotten at planting time that by the middle of the season they will be 3 feet in height and as much in diameter. It is difficult to assign a limit to the size obtainable from strong-growing varieties of the Ivy-leaved section of Pelargoniums; it is simply a question of time available for tying and training. For bold grouping on a large scale they rank among the finest plants. Very little, if anything, in the way of large specimens should be attempted unless plenty of time can be devoted to them.

HOUSING TENDER PLANTS.—Although, with the exception of a very slight frost on the morning of the 24th, we have not as yet had a touch of late September frost, there is always the chance of getting it, and that, too, sometimes after a wet, stormy day when foliage is naturally susceptible to its attacks, and it is, therefore, quite time that all plants should be housed that one is anxious to keep, such things, for instance, as Palms in variety, Grevilleas, and any specimen plants more than ordinarily tender, as Heliotropes. Where this work is in progress, it will be advisable to lift any inmates of the flower garden required for potting up. A batch of the Paris Daisies will come in very serviceable, and furnish good material of flowers from the frost-free end of nearly everything out of doors. If lifted carefully, well soaked, and placed in a large Peach house under partial shade, they will feel little of the removal. Flowers that are quite open may perhaps go, but partially expanded blooms and those yet to come will develop satisfactorily. A batch of Marguerite Carnations comes in very serviceable, especially for button-hole work, a white strain being particularly noticeable both for size and substance. Where Canas have not been retained in pots, sufficient can be lifted to help with groups, as occasional house plants, and the like. Especially are they useful one has to group occasionally on rather a large scale and more tender foliated plants are not available in quantity. Such sorts as Barilletti, Geoffrey Saint Hilare, Paul Bert, and President Favre show to great advantage in connection with early-flowering Chrysanthemums like Desgraize and G. Wernig, and a collection of Starworts in pots; in the latter plants the shade of colour as represented by Robert Parker is very telling. The value of Starworts for pot work is as yet but imperfectly known; they come in at a most acceptable time just before the Chrysanthemums and stand very well, at least the majority of them, as house plants. The great thing is to keep them in robust health right away through the summer, and this can only be effected in a season like that of 1896 by plunging the pots to the rim in beds of some such material and feeding liberally and regularly. This remark holds good in the case of all hardy plants, which are likely to remain long in pots. As isolated plants in the flower garden that have gone to the roots may as well be cleared and replanted. There are so many things that can be utilised for the purpose, that it is a pity to have a lot of empty beds for seven months in the year. A selection of the best of the Polyanthus seedlings having been made last spring, some beds can be filled with these, that is where it is a question of being particular about colours for individual places. I have never noticed plants recover themselves as quickly or so effectively as these same Polyanthus. We had a perfect plague of red spider this summer and the plants were so badly attacked, that about the middle of August there was hardly a sound leaf on them, and the lack of water was all against young growth. Very soon after the first soaking rain they commenced to grow, and made such good use of the time, that by the third week in September they were masses of sound, clean, healthy foliage. If cuttings of Pinks were inserted at the time advised they will be strong plants and may be put out at any time. Beds partially filled with taller hardy things will be a suitable site. Will any reader who has had experience with the new annual

Wallflower say if it is tender, or is the term merely applied because of its quick flowering properties enabling one to treat it as an annual? It is certainly a remarkably good thing, and portions of borders filled with it have been bright all the summer, and are still (October 1) furnishing plenty of flower. Of some flowers, notably Chrysanthemums, it has been remarked, "One does not want them all the year round," and Wallflowers flower away all through the summer seems perhaps a little out of place. In their case, however, the perfume is so delightful as to render them always acceptable.

SPANISH IRIS.—Since advocating planting the above in quantity where a large supply of cut bloom is required, I notice in several catalogues the cheapness of this beautiful flower, and that a good mixture can now be had at 10s. or 12s. 6d. a thousand. Almost every bulb will flower, and this is a big handful of one of the gems of the garden for a few half-pence. In addition to those established on sunny borders, I am planting a batch this year on a north-west aspect. If they take kindly to these quarters I shall get a nice succession of bloom.

LILIUM CANDIDUM.—Now that two writers, whose contributions are always read with interest and profit, have chronicled their practical experience, I should be loth to say there is nothing in the drying process, but still fail to understand how a disease due to atmospheric influences can be met and conquered by such treatment. Here I have the bulbs throwing up annually strong healthy foliage, and nothing wrong is discernible until the flower-stem is some 30 inches in height, and then the very tips of the leaves are the part first affected. Whilst thanking my friend "E. J." for his advice, I mean to try once again an outward application, and believing it to be purely a case of spot or rust brought on, as I have said, by atmospheric influences, think it ought to yield to a weak solution of sulphate of copper that proves so efficacious with Carnations.

Clarendon.

E. BURRELL.

HELENIUM AUTUMNALE SUPERBUM.—Under the above name I lately saw some nice plants growing in pots. It appeared to be a great improvement on the normal form, and I should think it will be a most useful plant for decoration at this season of the year. The plants referred to were of various sizes; one in an 8-inch pot with a single stem about 3 feet high had a very large terminal panicle of soft yellow flowers, spreading out fully 18 inches and as much in depth. Other dwarfer plants with several stems had smaller panicles. It appears to be free growing and easily increased. This should take the place of the yellow Marguerite which has been found difficult to grow successfully during the last few years.—A.

SOLIDAE FABRIA.—This old-fashioned plant makes a charming bed when left undisturbed, and flowering as it does in the autumn it is doubly valuable on that account. It is a very hardy subject, passing through the severest of winters unscathed, and in spring sending up plenty of its succulent shoots well clothed with glaucous foliage, each one of which is crowned with a good large head of pretty pink blossoms in the autumn. Its culture is of the easiest description and it is not at all fastidious as to soil, but at the same time the better the quality of the soil within reason the finer the flower trusses. Propagation is easily effected by division of the crowns, one good-sized root when split up making as many as five or six plants. This should be done in the autumn as soon as the plants have done flowering, and if planted where they can remain undisturbed for several years, they will not fail to give satisfaction. It is a good plan to cast a little fresh soil among the crowns after cutting away the old flower-stems, which prevents them from becoming unduly exposed, and also presents a neater appearance.—W.

ZAUSCHNERIA CALIFORNICA.—I notice a query (p. 238) as to the soil required in which to flower the above plant. I planted it here some seven

THE GARDEN.

eight years ago in a very narrow border against the south wall of the mansion and it flowers excellently in most years. It came through the severe winter of 1894-5 without any protection and flowered better during the ensuing summer than it had ever done before; the plants were a mass of flaming red for at least three months. This year has also suited it well, or did so up to a few weeks back, but it does not look so happy as it might do in consequence of the successive heavy rains and dull skies. I gave particular attention, when planting, to the drainage and on this I placed a mixture, about 1 foot in depth, of the natural sandy loam of this district, a little leaf mould, road grit and broken brick. The border is slightly higher than the broad gravel walk which joins it, and the plant has crept forward so that it now lies on the tile edging and overhangs the walk. All the surroundings are high and dry, and to this and the ample drainage I attribute the well doing of the plants.—J. C. TALLACK, Livermere Park, Suffolk.

Lilium candidum.—It appears from Mr. J. C. Tallack's note (p. 238) that home-grown bulbs of the Lily are, with him, badly affected with disease, also, that no importation has been made which might have infected the home-raised stock. I am not myself a convert to the infection-by-proximity theory advanced some months ago by a correspondent, as I have seen, at all times, a small clump of these Lilies growing close to a long line, the whole of which latter was absolutely destroyed by disease, and yet never contracted the malady. Neither, on the other hand, am I a bigot regarding my theory that the growth from imported bulbs is particularly susceptible to the disease, and were I shown a case where home-grown bulbs were languishing while imported bulbs were flourishing in close proximity (the reverse of which I see year by year), I should at once admit that the hypothesis needed consideration. I have never stated that home-grown bulbs are proof against the disease, but that, *ceteris paribus*, they are less likely to contract it than are imported batches. I have seen, this season, two instances in which bulbs imported in 1894, and which bloomed splendidly last year, have this summer been badly marred by disease, while the white Lilies in cottage gardens within a stone's-throw have not shown a trace of infection. As far as I have seen, imported bulbs flower well the season after planting, but, generally, are less satisfactory the second year. A line of *L. candidum* imported in 1891 flowered excellently with me in 1892, and in the autumn, unlike Mr. Tallack's, made perfectly healthy growth; in fact, no trace of disease appeared even in 1893 till the stems were fully 2 feet high; then, however, sudden and disastrous collapse ensued, not a single flower-spike escaping destruction. With the foregoing experience I am inclined to lean to the employment of imported bulbs, but of those I have herefore styled home-grown, having in my mind the fine specimens to be seen in the gardens of cottagers, where, at least in this neighbourhood, the disease seems practically unknown.—S. W. F.

BAKED LILIES.

To question or contradict another man's theory about the cultivation of a difficult plant, or to start a rival theory, is of much less use than simply to give one's own experience. Now all I have observed in my own garden and in neighbouring gardens goes distinctly against "E. J.'s" notion of the value of sun-drying the bulbs of *L. candidum* as a remedy for the disease. Fifteen years ago my garden contained an abundance of these exquisite white Lilies, free from spot or blemish of any kind, and sending up annually magnificent spikes of bloom. Shortly after this date the disease appeared in this neighbourhood, and, though I have fought it tooth and nail, it is now impossible to grow a single plant to the flowering point in my garden, and in ultimate despair I have dug up and burned my whole stock.

Let it be observed that (1) this soil is by nature very hot and dry—thin loam on chalk—so that in all average summers the bulb gets well ripened; (2) that in the fierce heat of such summers as 1887, 1893, 1896 the disease has been virulent; (3) that time after time I have tried this remedy of lifting and baking, which was pronounced at least ten years ago, absolutely in vain; (4) that in two cottage gardens, almost within stone's throw of my garden, there are clumps of the white Lily growing in deep shade, where the sun never touches them and the soil is never dry, which flower splendidly every year and are never touched by a single speck of disease. Consider these facts, and they must be found to speak convincingly against anything like the general truth of "E. J.'s" theory. I have no shade in my garden which is on an open slope and, therefore, in the whole day's sun, or I could grow white Lilies. In a neighbour's garden, which is even hotter and drier than mine, there is a long border containing many hundreds of them, and a glorious sight they used to be, but now they fall into rotting heaps every summer before flowering. This latter garden is not 30 yards away from the above-mentioned cottages, but no infection from it has touched the Lilies there, and they continue to be my yearly admiration and envy. They have certainly not been lifted for the fifteen years in which I have known them, and I think it likely that they have been undisturbed for a generation or two. The sun lets them entirely alone, and so do the old dames, their mistresses, except to pour the soap-suds of the household over them with great regularity, so that they are never dry for an hour throughout the year. As to lifting *L. candidum*; where this must be done, as in the case of market gardeners, for forcing or increasing stock, the one and only time for the operation is August, or even earlier, i.e., the moment the flower-stems have been cut.

G. H. ENGLEHEART.

NOTES OF THE WEEK.

Crocus speciosus var. Aitchisoni.—This is a fine bold flowering variety of this well-known autumn Crocus, the flowers about twice as large as in the ordinary form, though slightly paler in colour.

Aster densus.—This is one of the best of the blue forms of Michaelmas Daisies, growing between 2 feet and 3 feet high, and forming dense bushes that are quite loaded with flowers. Its compact growth, too, is much in its favour.

Spirea Bumalda Anthony Waterer.—Some groups of this on the grass in the Royal Gardens, Kew, are still very showy with a profusion of the pretty heads of crimson flowers, that will continue some time in good condition if frost keeps away.

Kniphofia Soliflora Anthony Waterer.—This somewhat profuse-flowering member of this family has been in bloom since early in August, and even now its heads of rich clear yellow flowers are among the most pleasing and refined, on account of their uniform colours.

Vernonia Arkansoni.—This singular and striking plant is in flower at the present time in Mr. Ward's nursery, Tottenham. It has compact heads of reddish-purple supported on strong, erect, almost woody stems. The colour is very acceptable at this season.

Diospyros Kaki (the Chinese Date Plum).—A plant of this in the succulent house at Kew is now bearing several large and nearly ripe fruits, the latter of about the same size and similar in colour to an average-sized Orange. Indeed, at a short distance they could be easily mistaken for this fruit.

Bouvardia jasminoides.—For the greenhouse at this season it would be difficult to name anything with pure white blossoms more useful. Compact plants not more than 9 inches high from the pot are when well grown invariably covered

with blossom, and thus rendered of great service either for cutting or for decoration.

Kniphofia Nelsoni.—A strong tuft of this plant appears fairly well established in the Kew rock garden, where it has attained to nearly 3 feet high, and produced half a dozen spikes of its beautiful yellow flowers. This charming plant would be an acquisition in the rock garden if it proved to be among the more hardy of the genus.

Cestrum surinamicum.—Just now a very fine plant trained to a pillar in No. 4 house at Kew is laden with its clear orange flowers, the latter closely arranged in slightly drooping panicles. The plant in question is evidently well suited, and being planted out may to some extent account for its having attained to fully 10 feet high.

Nerine pudica.—This is rarely seen outside botanic gardens, and is just now in flower at Kew. There are about six or eight flowers in a scape, these being pure white, striped with red. *N. humilis* and its variety splendens are also flowering together with the brilliantly coloured *N. Meadowbankii*, which is among the most brilliant forms we have seen.

Gynium argenteum.—The silvery plumes of the Pampas Grass are now in their beauty, and some handsome clumps—with many heads in a forward stage of development, that are quite near to some of the lighter and more graceful of the Michaelmas Daisies—are very suggestive in the garden at the present time, and may be worth repeating in the future.

Fuchsia corymbifera alba.—This very distinct variety is now flowering in one of the greenhouses at Kew. The plant is distinct in its tree-like stem, its great leaves, and, not least, in the dense truss of its terminal clusters of flowers. These latter are each 4 inches or perhaps more in length, the tube pure white, and the reflexed divisions of a crimson-scarlet hue.

Saintpaulia ionantha.—Something like a score of examples of this exquisite little plant are now flowering in the greenhouse at Kew, the plants being crowded with blossom, to say nothing of a profusion of spikes still emerging from the leaf-tufts. These plants have been in bloom for two or three months past, and even now there is not the least sign of any cessation.

Rose Laurette Messimy.—We need not refer to the tempests and rains of the last thirty days or so, but what is worth telling, perhaps, is that this beautiful Rose has gone on flowering with us in all the trouble of the rain, and when there were a few still hours among the tempests and torments, large and beautiful buds and flowers opened, some of them good enough to send to a show.

Kniphofia Leichtlini distachyon.—This very interesting and curious hybrid we noted recently at Mr. Ware's, Tottenham. The head of bloom is of a clear yellow tone, and the flowers individually not unlike those of a miniature Lachenalia and very short, so much so, that the short stamens protrude to more than double the length of the flowers, thus giving it a very distinct appearance.

Begonia echinosepala is a valuable plant that attains fully 4 feet high when well grown. The flowers are quite distinct from those of the usual run of Begonias from the fact that the sepals are thickly studded with curious spines that render the flowers unique. Small plants in 5-inch pots have a pretty effect among fine-foliated plants. Some fine examples of this Brazilian species are now flowering at Kew.

Kniphofia Pfitzeri.—This is one of the most distinct of the modern hybrids of this useful race of perennials. It is distinct, inasmuch as it is quite free from any yellow or orange shading, which is to be found in many varieties. And, again, it is distinct in the great length of its club-like flowers, which in colour are of a clear bright crimson, inclining rather to vermilion, perhaps, in the early stages. This and its much more acutely-pointed spike as a whole make up a

welcome and useful variety in this fine race of plants.

Gioxinia maculata.—Several large examples of this plant are now flowering at Kew in the Begonia house, the plants being nearly 3 feet high. Occasionally this distinct species may be seen in provincial towns growing as a window plant, though by no means a good plant for the purpose, as its large and somewhat downy leaves are quickly covered with dust, that cannot easily be removed. The flowers are large and of a purple-blue shade. South America.

Strobæs membranifolia is an exceptional plant both in foliage and flower that will make a useful companion to the better-known *S. purpurea*, which has also an individuality of its own. This for some time past has been flowering with Mr. Perry at his hardy plant farm at Winchmore Hill. The foliage is unusually large and broad, and likewise distinct. The ray florets are of a pale yellow colour. It is a striking plant for the wild garden or large border.

Crinum Moorei.—This is, perhaps, one of the most vigorous as well as free flowering of this genus. For weeks past at Kew there has been a display of its handsome flowers from giant bulbs growing in large pots, and at the present time in one of the large greenhouses there are about a dozen of its scapes nearly or quite 3 feet high, each bearing a profusion of its showy blossoms. The plant is very easily accommodated, and once well established will flower freely and regularly.

Statica Fortunei.—This distinct and somewhat rare species is now flowering at Winchmore Hill, where choice hardy flowers are receiving every attention. It is a native of China, having yellow flowers, or rather the buds prior to expansion are clear bright yellow, but become sulphur-yellow with age. When well grown the plant attains a foot or more in height, its much-forked corymbs of flowers being in distinct contrast to the blue shades so frequent among the hardy members of this genus.

Erigeron speciosus glaucus.—This is a welcome and valuable perennial for late summer and autumn. At the same time it is quite distinct in foliage and flower from all else in this group. At Winchmore Hill Mr. Perry has large masses of the best kind growing side by side, and this variety stands out conspicuous, the deep violet-blue of its masses of bloom at once attracting attention. The flowers, too, are well formed and quite distinct, as are also the greyish glaucous hue of its leaves and compact habit of growth.

Calceolaria Burbidgei.—This is one of the finest and most effective of greenhouse plants now flowering at Kew. The plant is grown in considerable quantity, and, as a result, is making a really fine display in No. 4 house, where many plants have reached fully 9 feet high. The plants assume a semi-natural habit, staking being happily dispensed with. In this way the clear golden yellow blossoms with which the plants are well furnished are very pleasing. This is an indispensable plant in all large greenhouses at this season of the year.

Chrysanthemum latifolium grandiflorum.—This is a well-marked variety of this plant, well deserving its varietal name, and though large is devoid of all coarseness of bloom or roughness of habit. At Winchmore Hill Mr. Perry has a fine bed of this useful variety that has borne quantities of bloom for weeks past. The flowers are of the purest white, while the ray florets are particularly noteworthy by their great substance and rounded tips. Its very compact habit, too, places it in the foremost rank of these fine perennials.

Geum Heldreichi.—It is impossible to overestimate the value of this charming plant that flowers on and off for several months in the year, the only thing needful to this end being to keep all flower-stems cleared away as the blossoms fade. *G. minutum* is a well-known plant, but the above seems destined to supersede it, while being superior in the colour of the flowers. These

latter are usually described as orange coloured, but this only feebly describes the fine orange-scarlet blossoms so freely produced by this plant. No finer subject for cutting or for the decoration of border or rockwork could be named at the present time, though its greatest display is in spring and early summer.

Eryngium Oliverianum.—This is one of the finest of the Sea Hollies and is now in excellent condition. It is a plant, by reason of its quaint and picturesque form, that is well suited to the large rock garden. A large space at the top would suit it well. In such a position it would receive full sunlight at this season, and in this way its beauty would be enhanced. Moreover, the singular and vivid colouring that pervades the stems and bracts would be seen to advantage. Generally speaking, deep rich, though well-drained soil is recommended for these plants, and, indeed, in such they grow vigorously and well. At the same time some of the best coloured plants we have seen were growing in rather poor and very sandy and warm soils.

Hybrid Geums.—Few hardy plants are more useful than the dwarf members of this pretty race for rockwork, and none more attractive than the taller kinds for the border. Apart from those already in commerce are some beautiful hybrids that have originated at Mr. Perry's hardy plant farm at Winchmore Hill, the hybrids having for their parents *G. montanum* and *G. Heldreichi*. Though somewhat late to see at their best, it is quite obvious that these new forms will prove among the most acceptable of hardy flowers, particularly when well established; indeed, at the present time the *G. montanum*, the species they favour most, much the rear, one variety being especially valuable, with flowers of the exact shade as seen in the well-known *Ceranthus Marshalli*, the flowers being fully 1½ inches across.

Hamamelis virginica.—This, which is the sole representative of the Witch Hazels in North America, is not so striking a shrub when in flower as are the two Japanese species *arborescens* and *japonica*. Both these produce their flowers during early spring; whereas *H. virginica* very frequently keeps up a dribbling show of bloom from October to spring. This year, however, owing probably to the unusual amount of brilliant sunshine, it has flowered earlier than usual and much more freely. A large bush at Kew was during the latter part of September as thickly set with yellow flowers as *H. arborescens* generally is in spring, although the fact of its still bearing its full foliage has prevented it from giving the peculiarly striking effect which is produced by *H. arborescens*, whose flower-laden, crooked branches are always leafless. Autumn, however, is a time when trees and shrubs in flower are very scarce, and this Virginian Witch Hazel is on this account most welcome. The thin twisted petals are each three-quarters of an inch in length and of a rich shade of yellow. After they fall the calyxes still remain, and do not drop off till spring.

Plants in bloom in September.—*Chrysanthemum latifolium* has been very beautiful, giving us abundance of pure white flowers. It seems to defy the rain. Autumn Crocuses, too, have been beautiful, as they are growing amongst grass that is rather long and thus looks better. *Sternbergia lutea* appears to have enjoyed the dry, hot weather, which no doubt ripened it well, as since the rain it has made a wonderful growth and bloomed most abundantly. *Dianthus* never have been so fine, and the double white is lovely for cutting. These should be grown more for this purpose. The Michaelmas Daisies never were so good in our borders as this year; the dry weather reduced their growth and the rain which followed has produced an abundance of showy and useful flowers on strong wiry shoots. Nothing gives more pleasure at this season of the year than the various kinds of hardy *Cyclamen*. When seen in masses on the grass they are charming, I have seen some here both in this way and on the border. *Rudbeckia Newmanni* has done well. It would

be difficult to find a more showy and useful plant at this season; enjoying as it does abundant moisture this autumn has just suited it.—D. CROOK.

Cotoneaster frigida.—Shrubs and trees generally this year appear to have borne an exceptional wealth of fruits. Many of the Thorns, for instance, have been almost weighed down with their loads of red, yellow, or black haws. The Cotoneasters, too, are very handsome, and none more so than this species from the Himalayas. *C. frigida*, which was introduced in 1824, is a loose-growing, spreading bush, 10 feet to 15 feet or more high. Its leaves are elliptical, woolly beneath, and in mild winters a considerable proportion remain on the branches. The flowers are white, and are produced very plentifully in April and May. Its beauty as a flowering shrub, however, does not give it the same value as do its handsome bright red fruits. These are each about the size of small peas, and thickly cover every part of the wood that was made in 1895. Unless they are attacked by birds—and this only happens in severe weather—the fruits remain on during most of the winter. For the back parts of large shrubberies or for planting on the outskirts of plantations this Cotoneaster is of much value. It will thrive in comparatively poor soil and is perfectly hardy.

Australian Oranges.—A shipment of nearly 1800 cases of Oranges from the Cumberland district of New South Wales was lately landed from the steamship *Ophir*. The Oranges were shipped under the supervision of the New South Wales Government, whose exports selected, graded, and packed them, and they were consigned to the Agent-General for the colony. The shipment consisted almost entirely of second grade fruit, for which there is little or no demand in New South Wales, but fifty cases of the finest fruit procurable were included. The latter realised exceptionally good prices, thirty-one cases selling for 23s. per case of 150 Oranges, while the remainder fetched 1½d. and 1½s. Prices for the other sorts ranged from 4s. to 16s. 6d., according to condition, which was generally very good, and the average price realised for the whole consignment was nearly 14s. per case. Sir Saul Samuel, the Agent-General for the colony, who was present at the auction, expressed himself as being highly gratified at the result of the shipment. Its successful issue is likely to lead to a systematic export trade of Oranges from New South Wales to London, and it is stated that between the second week in June and the end of July each year the colony will be able to ship from 50,000 to 100,000 cases of Oranges quite equal to those comprised in the present shipment.

The cleaning of hot-water apparatus.—From now onwards for the next few months the apparatus for heating fuel houses will be at rest, and an opportunity is thus afforded for overhauling it. In the manufacture of tubes and operations connected with horticulture and agriculture it is apt to be overlooked, more often than want of time or inclination. It is time well spent, however, and in addition to examining the boilers themselves, the flues should be well cleaned and all defects made good. Should the setting of the boilers or alterations of flues demand attention, it can be done much better while the fires are out than afterwards, and the new brickwork will then become set and firm before firing commences again. Where a re-arrangement of the piping is necessary the same should be done now. Sound pipes should be substituted for cracked ones and leaky joints made good, giving all a coat of paint afterwards if needed. When the boilers and pipes are sound, draw off the water and wash out afterwards to remove all sediment. If this is done only once a year it prevents a great deal of corrosion in both pipes and boilers taking place. Living as I do in a limestone district, I find it absolutely necessary to do this three or four times a year, otherwise the boilers would fur up quickly and soon burn through.—A. W.

ENYS, CORNWALL.

ENYS, the residence of Mr. F. G. Enys, is situated close to Penryn, Cornwall, and though the sea cannot be seen from the house and gardens, yet in the drive near the lodge a beautiful view of Falmouth harbour is obtained, and it is one of those sheltered spots where many tender subjects are grown. The park is beautifully undulating, with some fine trees scattered about—Larches, 8 feet 3 inches; Beech, 17 feet; Sequoia, 10 feet 4 inches; Plane, 8 feet 8 inches; Scotch Fir, 8 feet 10 inches; Silver Fir, 11 feet 10 inches; Spanish Chestnut, 10 feet 2 inches. The circumference of each is taken at 3 feet from the ground. There are also some very large trees of *Cupressus macrocarpa*, but many were damaged by the blizzard in 1884.

Near the house a Tulip Tree was in full bloom at the time of my visit, and close to it were a deciduous Cypress and a Hickory (50 feet high); the contrast of colour of the leaves of these trees in the autumn is very striking.

the second time much deeper in colour than the first; *Pittosporum tenuifolium* and a Maiden-hair Tree (*Ginkgo*) strong and vigorous. The Tea Tree of Australia (*Leptospermum*) was in full bloom, and *Fagus cliffortioides* was doing well. It is rather strange that though the latter is evergreen in New Zealand, here it is deciduous. *Camellias* are very beautiful here, and usually flower for months. There were some good blooms at the date of my visit (June 13).

In the old formal garden are some interesting plants, such as standard *Wistarias*, *Grevilleas*, *Magnolias*, *Erythrina*, *York* and *Lancaster Roses*, *Smilax*, *Dracaena indivisa* (true), immense *Kalmias*, *Chimonanthus*, old *Jerusalem Sage*, *Snowy Mespilus*, very beautiful in seed; *Eriobotrya japonica*, *Aralias*, and *Magnolia stellata* fl., very fine. A mass of the blue Chinese Bell-flower (*Platycodon grandiflorum*) and *Hyacinthus canadensis* was looking well. *Olearia macrosoides* and *Veronica Traversi* are growing well, but the most interesting of all are grand plants of

grounds and gardens are in charge of Mr. Prestley Hobgin.

The pond here illustrated is becoming a beautiful feature at Enys; long rows (150 yards) of *Primula japonica* are growing along its margin bordering a Lime-covered walk. *Gunnera manicata* is growing singly and making a magnificent all-round specimen. *Arums* are planted at the water's edge, as well as some beautiful hardy Ferns. *Olea fragrans* is seedling freely, and fine trees of *Fraxinus ornus*, *Cryptomeria japonica*, *Tulip trees*, &c., are growing well on the surrounding slopes.

Exeter.

P. C. M. VEITCH.

ORCHIDS.

BRITISH ORCHIDS.

AMONG the many species of the Orchid family indigenous to Britain there are several well worth the care and attention of hardy plant lovers, but for some unexplained reason native plants of any kind, if we except Ferns, seem to be very little thought of unless it is by the hawking fraternity, who in the neighbourhood of many of our large towns tear up every root of *Primrose*, *Cowslip* or *Fern* they can lay hands on. Fortunately, these depredators of our country lanes and hedgerows do not as a rule pay their unwelcome attention to wild Orchids, though when the supply of those plants mentioned runs short, as it must do in time, it is difficult to say what will be the next plant attacked. The worst foes to the Orchids are those well-meaning, but misguided folks who see them in bloom, and with the desire to procure plants for their garden, forthwith root them up, oblivious or careless of the fact that they are only in the middle of the season's growth and cannot be expected to thrive or hardly live if disturbed at the roots. We are now rapidly approaching the time for transplanting these native species, the growth of most of them having died off, the new tubers in many cases being fully matured. Now will be seen the advantage of having marked where the finest plants grow, as I advised some time since for *Orchis pyramidalis*, and if the tubers are carefully lifted and planted again with as little delay as possible into suitable soil, they will hardly feel the removal, and in most cases will flower freely the first season after transplanting. Where the soil is not suitable for them, it must be made so some little time in advance of planting. Some of the kinds do best in a fairly sound loam with which lime has been freely impregnated, most of the *Orchis* and *Ophrys* species liking this treatment. Others, such as *Habenaria bifolia*, grow as a rule in the shade of trees where the soil is moist and consisting often more largely of decayed vegetable matter, as leaves, than of loam so-called. For these, equal parts of peat, light sandy loam and leaf-soil will be found a suitable mixture, and they must be planted where moisture is abundant, yet where the roots are not standing in water, so to speak. In most gardens there are suitable positions to be found for wild Orchids; in shrubberies or on the borders of woodland walks or drives, under the shade of large trees where few other plants would thrive, in the rock garden or hardy fernery, or even in the herbaceous border if not too much exposed to the sun. In any of these places the plants will be a source of pleasure, the quaint, yet beautiful forms of some, the showy appearance or delightful fragrance of others excelling many more expensive and rarer plants.

The Twayblade (*Listera ovata*) looks pretty under overhanging trees in proximity to water,



The pond at Enys, Cornwall. Engraved for THE GARDEN from a photograph sent by Mr. P. C. M. Veitch, Exeter.

Close by are a large Flowering Ash, some choice Himalayan Rhododendrons, Indian Azaleas, *Embothrium coccineum*, and *Benthamia fragifera*, beautiful with its delicate creamy calyx. There are some strange traditions about some of the trees here. A fine Lutcombe Oak is shown, and it is said to have been raised here. It is said, too, that many Scotch Firs were planted during the reign of James I. In one part of the park is a splendid specimen of the Canoe Birch with immense leaves, which was received as a "binc" round a bundle of trees from some nursery at Exeter. There are some immense trees of the English Yew about 50 feet high, and they appear to have formed part of a hedge at some time. One of the most interesting plants is a wonderful old Clematis, with a stem 1 foot 7½ inches round, growing over a large Portugal Laurel and spreading over a great distance. In this part of the garden are an Amazon Laurel, with very star-like white flowers and shining green leaves, which when young are quite red in colour; *Photinia serrulata*, very large; *Magnolia Lennei*, flowering twice in the year, and

the blue and white variety of *Myosotidium nobile* from Chatham Island. The dowerspikes this season were 3½ feet high, and the leaves are very large and vigorous. Mr. John Enys—who kindly conducted me round the gardens, and is keenly interested in all the beautiful old and new plants grown there—brought those plants from their native habitat, and cultivates them as near to Nature as possible. They are found growing on sand-hills, and Mr. Enys's are planted in good soil, but covered over with a good layer of sea sand. This treatment is evidently very effective.

In the kitchen garden are found *Chrysobactron Kirkii*, with its upright, yellow spikes of flower; *Ranunculus Lyallii*, which last season bore eighteen flowers on spike 1½ feet high, but is now not doing so well; and an old *Mistletoe*, which has been growing here for years. The American Wineberry, with its amber fruit, is growing freely here. The garden walls were built with flues in them, and the houses also were heated by flues, but they are now being overhauled in an intelligent manner and heated with hot water. The

while for densely shaded positions in under-wood or shrubberies the British Butterly Orchid has no equal. In a wood of several acres here it is hardly possible to find a space of a dozen yards that is not covered with this beautiful plant, the hundreds of spikes of white blossoms having a most delightful appearance against the fresh green of the surrounding foliage, while the air all around is laden with their delicate fragrance. *H. bifolia* is, I consider, only second in beauty to the lovely little Wood Anemone (*A. nemorosa*), which it closely succeeds in the same wood. One of the most easily cultivated of all is *Orchis maculata*, which with its prettily spotted foliage and pyramidal spikes of variously coloured blossoms is familiar to all lovers of the country in June and July. A partial shade is best for this, as the full glare of the sun is too much for the foliage, and it delights in a rather adhesive moist loam. *O. latifolia* is a similar kind often confounded with it, but really quite distinct. The leaves are not spotted, the spikes are taller, and it is usually found growing in very moist places; the flowers are of various shades of purple. *O. pyramidalis* is one of the best for massing, the pretty heads of rosy pink flowers having an elegant and effective appearance at the base of a rock or in any semi-shaded position. The soil should be a sound loam, inclined to be heavy rather than light, and if a little lime is present all the better. The Bee Orchis (*Ophrys apifera*) is a pretty plant when suitably placed, but is more difficult to establish than those named above. In the southern counties on open chalky downs, such as in Hampshire and Wiltshire, this plant is common, and the flowers are freely produced in June or July. Two or three flowers occur on each spike, the lip closely resembling the back of a bee, hence the specific name. The most likely place for it to succeed in the garden is on the rockery, where the soil should be made very firm, plenty of old lime mortar rubbish being mixed with it. There are several hardy Cypripediums, but only one, *C. Calceolus*, is indigenous to this country, and even that is practically extinct as a wild plant. It is an interesting and beautiful plant worthy of frane culture, though if it can be made to thrive it looks well in a prepared shady border. Crowns may be purchased and should be planted 5 inches or 6 inches deep in equal parts of peat and yellow loam where good drainage exists. The flowers appear in early summer, and have brown sepals and petals and a bright yellow pouch.

Many other kinds might be named, but the above are the most distinct and easily grown, and to anyone who is interested in Orchids and has not tried their culture they will prove very attractive. Their structure is very remarkable and beautiful. R.

Syndicate.

Masdevallia Chestertoni.—This is a distinct species belonging to the Chimera section, and like that kind, having remarkably beautiful and quaint blossoms. These are produced one at a time upon a semi-pendent scape about 5 inches in length. The sepals are greenish yellow, with spots of very dark purple, each elongated into an almost black, tail-like appendage; the lip inconspicuous, dull red. It thrives well in suspended baskets, and in this position the peculiar blossom show to great advantage. It may be grown in three parts of clean Sphagnum Moss to one of peat, and must be freely watered during the growing season. It is a native of Colombia and was introduced in 1883.

Dendrobium rhodopterygium.—Some plants of this little-known Dendrobium received some months ago are now blooming from the imported

stems, and though, as may be expected, the flowers are not very large, they are distinct from those of most Orchids now in flower. The sepals and petals are rose coloured, the lip bright purple, streaked with a deeper tint. The pseudo-bulbs are much towards the root in height, rather stiff and ungainly looking, and it is in this devious kind, the present of course not being its proper flowering season. It is a free grower and does well in the East India house while making its growth, the after treatment being similar to that of this section generally. *D. rhodopterygium* is a native of Burmah, whence it was introduced in 1875.

Lelia Dormaniana.—The habit of this little species is very distinct, the pseudo-bulbs being very thin, about 8 inches or 9 inches in length, furrowed, and bearing two or three leaves. The spikes contain two or three blossoms, each about 4 inches across, the segments olive-green, spotted outside with purple, the lip crimson purple of varying tints. It does well in pots in the Cattleya house, and may be grown in a compost consisting of equal parts of peat and Sphagnum Moss, used in a rough, open condition. The flowers occur at various seasons, and it is not so constant in its time of growing and resting as some other kinds; the treatment otherwise may be similar to that recommended for *L. Perrini*. It is a Brazilian plant, and first flowered in this country about 1880.

Lelia grandis tenebrosa.—A plant of this fine Lelia has flowered on the young growth after the manner of *Cattleya gigantea*. Though this is not by any means unusual, I have before seen it, it does not seem to be due to the influence of sun experienced that season. There is no real loss in difference in the quality of the flowers and those of a fair variety, not so large or well coloured as I have seen, but welcome at this season on account of their distinct character. *L. grandis tenebrosa* is one of the very best of this fine genus, and delights in a full Cattleya temperature and plenty of light while growing. During winter the heat should never go below 50°, and enough water must always be given at the root to keep the growth plump and in good condition.—R.

ORCHID FLOWERS DYING OFF.

WILL you kindly let me know why the bloom-spikes of *Oncidium crispum*, *O. Marshallianum*, and *O. sarcodes* dry off when from 4 inches to 6 inches long. Several of my *Cattleya Trianae* and labiatissima have black spots on this season's leaves and flower-sheaths. —PERPLEXED.

* * * The dying of the flower-spikes of *Oncidiums* and *Odontoglossums* is a frequent cause of complaint, and is brought about in most cases by lack of vigour in the plants. "Perplexed," like so many other correspondents, asks a question, but gives not the least idea as to the mode of culture practised or the temperature the plants are growing in. The *Oncidiums* named are all the better for a little nursing treatment just as the spikes are forming, a nice moist atmosphere and gentle, steady heat being very congenial. Possibly the plants are in rather dry quarters, or if in a house, in a position where draughts of cold air play upon the young spikes. This has been the ruin of more flowers than any other defect of culture, the growing points of the spikes being much more tender than either young growths or roots. This latter fact must then be kept in mind at the time of potting accordingly. If these are strong enough to bloom and do not in a comfortable growing temperature while the spikes are forming, there need be no fear as to the result. II. On the other hand, the plants, from defective culture or owing to their not being well established, have not enough vigour to push the flower spikes, then it is much better for them to die off, or rather they ought to be picked off as soon as seen. In this case find out what is wrong with them, whether the roots are healthy, or the reverse, and whether they are in a suitable medium for extension. A plant of either of these *Oncidiums* may finish up a fairly healthy-looking bulb and

apparently be not in bad order, but the additional strain of flowering proves too much for it and consequently the spike decay. But in all probability it is simply in the atmospheric conditions that you have gone wrong, and if a house a little warmer and moister is at command, I should advise the removal to it of any plants that have sound spikes appearing. They will soon show whether the change has been for the better, and in any case no harm will be done.

The leaves of Cattleya become spotted from various causes. A virulent fungal disease termed spot sometimes attacks them, appearing at first as a small brown mark and gradually destroying the tissue until the leaf is entirely covered. This is a very disfiguring and troublesome disease, attacking strong and weak, healthy and unhealthy plants alike, and nothing but cutting away all diseased parts will save the plants from total destruction. Again, the spots may be caused by sunburn, owing often to careless ventilation, the house being left closed with the night moisture still about the plants until the sun has power to scald the foliage. Cold water may have been sprinkled on them in damping, and in either of the latter cases the injury is not likely to spread after the cause has been removed. I cannot advise you further with respect to them without seeing specimens of the foliage and knowing something of the conditions under which they have been grown.—R.

LELIA PERRINI.

THIS is one of the most distinct of Lelias, and a really handsome autumn-flowering Orchid of great value where a display of bloom has to be kept up. In habit it resembles a *Cattleya Trianae*, but in many of the plants a distinct bronzy-red tint will be noticed and the pseudo-bulbs are usually rather straighter. In the type the sepals and petals are of a pretty rose-purple colour, becoming of a deeper tint at the tips, and the lip is bright with an orange-yellow blotch in the throat. All the segments stand at about the same angle from the stem, which makes the flower appear rather flat, and to certain extent detracts from its beauty. The culture of *L. Perrini* is not difficult provided due attention is paid to the details given below, but it will not stand rough treatment. In its native habitat it is found at considerable elevations, and by the appearance of imported plants I should say that most of them are collected from positions where they obtain both little shade, for every one of the old pseudo-bulbs has, as a rule, a flower-spike upon it, and as soon as the plants are placed in the Orchid house the new growths made are more elongated and less stout than those on newly-imported plants. It is evident then that no more shade than is really necessary must be allowed, and the cool end of the Cattleya house is suitable for it. It may be grown either in pots or baskets as most convenient, and when potting, select the best compost, so that disturbance will not be necessary for a season or two at least. Plants newly imported must be thoroughly cleaned before being potted up in clean crocks. Water these daily and keep up a nice moist atmosphere about the plants. The basal eyes will soon plump up and the leaves freshen, the young shoots coming away in due course. Often new roots will be emitted from the old rhizomes, and this is the case, add a little compost at once, or probably these will be injured in doing so. Otherwise it is safest to wait until the young shoots have attained a length of about 3 inches, when they usually begin to form roots of their own accord. The treatment after this is precisely the same as for established specimens, and consists in growing them on with all due speed consistent with a solid growth until the flowers appear, afterwards letting them steady down, and avoiding excitement until it is caused naturally by the increased light and heat in early spring. There are several varieties, including the white one, alba or nivea, as it is sometimes termed, irrorata, a very fine pale coloured form, superba and one or two others more or less distinct. All

are natives of Brazil, introduced at various times since 1831, the date of the introduction of the typical form.

Cypripedium Parishii.—This handsome and robust-growing Cypripedium is a native of Burma in the neighbourhood of Moulmein, and comparatively requires a high temperature to grow it well. In habit it is like a strong *C. philippinense*, and the scape carries several large flowers. The dorsal sepal is yellow, lined with pale green, the pouch purple and green. It does best in a very open compost over good drainage, so that plentiful supplies of water may be given without reducing the compost to a close mass or keeping it always wet. It may be freely propagated by division, and if not quite so showy as many others, it is well worth growing. The spring is the safest time to repot or divide this species, watering carefully afterwards until the roots have a good hold on the new compost.

Cypripedium Spicieranum.—The flowering of this beautiful plant is an event annually looked forward to by Orchid growers, its distinct and pleasing character and its value in keeping up a show of bloom making it everywhere a favourite. The pretty blossoms with their distinctly striped dorsal sepals are now too well known to need any description, for it is one of those kinds—of which several in the genus might be mentioned—that once seen never fade from memory. Some of the choicest and most beautiful hybrids have sprung from *C. Spicieranum*, the vigour and attractiveness of the parent being usually reproduced in the progeny. Though certainly a heat-loving species, it is not fastidious in its requirements, and only very recently I saw some very healthy and thriving young plants in a mixed house containing only very few Orchids. Its culture, in fact, depends wholly upon a little care and attention. The roots are persistent, and thrive in a much more substantial compost than those of many other Orchids. Good sound fibrous loam makes a capital basis for this if kept in proper condition by the addition of some hard, porous material, as crocks or charcoal. Healthy plants must be well watered all through the year, less, of course, being needed during cold and dull weather in winter than when the sun is more powerful. Some growers use stimulants, such as guano or liquid manure, but if properly potted and well attended to, splendid results may be obtained without having recourse to this. Many named varieties are in existence, the best of all perhaps being *C. S. magnificum*, a large and very superior form when obtained true, though inferior kinds are sometimes labelled *magnificum*. *C. Spicieranum* is a native of Assam and parts of East India, and is a striking example of the variability in the price of Orchids, for whereas on its introduction in 1878 it was one of the highest in price, it may now be purchased for a few shillings.

CHRYSANTHEMUMS.

CHRYSANTHEMUM VIVIAND MOREL.
THIS Japanese variety enjoys a popularity that very few sorts can claim, and is as much esteemed for general culture as it is for the production of blooms for show. As an exhibition flower Vivian Morel is invariably at or near the top of any audit which may be prepared giving the number of times individual varieties are placed in prize stands, thus proving it to be one that cultivators for show strive to get in good form. When at its best this is indeed a magnificent Chrysanthemum. The colour (silky mauve) is a shade most people like. In formation it is the perfection of grace. Good specimens measure from 7 inches to 8 inches across and nearly as deep. Its florets are of great length and droop in an arch-like manner. Vivian Morel is an easy sort to grow. The

last year or two it has formed a habit of throwing flower-buds on the young shoots during the early spring months, which is not pleasing to the grower, but that undesirable trait is easily got rid of if the plants be cut back nearly to their base. New shoots readily spring up. These grow with great rapidity, and perfect flower-buds in time to develop exhibition blooms. The buds may not be secured early. By so doing we lose the charming tint named, and its flowers are white and pink of varying shades. Buds that form after the 1st of September will give the most successful results. Vivian Morel is an excellent variety to grow as a bush. Top the young plants in the spring twice to secure about a dozen shoots on each. These should be trained properly; that is, room for the shoots to grow must be allowed and all superfluous side growths pinched away, finally having but one bloom to every stem. Such a speci-

last year or two it has formed a habit of throwing flower-buds on the young shoots during the early spring months, which is not pleasing to the grower, but that undesirable trait is easily got rid of if the plants be cut back nearly to their base. New shoots readily spring up. These grow with great rapidity, and perfect flower-buds in time to develop exhibition blooms. The buds may not be secured early. By so doing we lose the charming tint named, and its flowers are white and pink of varying shades. Buds that form after the 1st of September will give the most successful results. Vivian Morel is an excellent variety to grow as a bush. Top the young plants in the spring twice to secure about a dozen shoots on each. These should be trained properly; that is, room for the shoots to grow must be allowed and all superfluous side growths pinched away, finally having but one bloom to every stem. Such a speci-

low flower named Charles Davis. This is most handsome and equally popular with the parent kind. Louis Lacroix fils, Toulouse, France, raised it. It was distributed in 1891. I sometimes fancy that Lacroix is a raiser of Chrysanthemums who is slightly neglected. Mlle. Marie Hoste, a most handsome flower, is by the same hybridist who gave us Mlle. Lacroix, for a long time most esteemed, and still among the most lovely in form of all the Japanese types. By the same raiser are : Phœbus, a splendid yellow ; Guirlande, a pretty creamy white flower ; M. Aug. de Lacivrier, very showy orange-yellow, and others. Some of the latest of the Toulouse strain—Mme. Louis Lacroix, Mons. L. Lacroix and Rabelais—appear very promising. H. S.

Chrysanthemum Mlle. Therese Rey.—This excellent variety has for a year or two past developed a habit of producing blind flower-buds. In many instances it is doing the same thing this season, though not at all welcome, and considerably detracts from the merits of a handsome and highly esteemed sort. H. S.

Chrysanthemum Barbara Forbes.—Send you a couple of blooms of my new early flowering Chrysanthemum Barbara Forbes. The blooms were cut from a batch of about fifty plants, and most are bearing from eight to twelve blooms on a plant. There is no difficulty in getting the variety to bloom from the beginning of September to the middle of November. Queen of the Earlies and Barbara Forbes were from the same head of seed and are both equally good. The former is a little wider in the floret.—W. J. GODFREY, Exmouth.

Chrysanthemums at Trent Park.—A recent visit to this famous collection was particularly interesting in view of the eminent position attained by the grower last season. The collection as a whole is looking very well, the plants being in capital condition. Among the newer sorts with buds well developed were Mr. A. G. Hubbuck, a very strong grower; Australian Gold, M. Chenon de Leche, Dorothy Seward, Western King, said to be a marvellous white; Lago Maggiore, an invaluable yellow; Modeste, highly spoken of; Pride of Madford, Mrs. Weeks, Baron Alfred de Rothschild, besides many other promising sorts. The improved varieties are looking in the pick

of condition, the Queen looking as well as possible. Most of the plants were coming nice to time, a very important consideration. Among the newer sorts were noticed Robert Petfield, D. B. Crane, and Duchess of Fife with good buds. The Tecks were particularly fine.—C.

Chrysanthemum Golden Wedding.—I have seen a plant of this sort growing in several localities this year, and in every case free from the disease which attacked it in all directions the first year after its introduction from America. It will be pleasing to see nice blooms of the variety. It is a striking shade of yellow and the flower is a beautifully formed one. Great pains were taken at the time to find out the origin of its disease, and it was even thought that some new complaint among Chrysanthemums had been imported. This fear, however, has happily not been realised.—H.

Spot in the leaves.—Constant rain is apparently the cause of a few sorts becoming covered



Chrysanthemum Vivian Morel.

with black spots of decay in the leaves. This is especially noticed in the case of the dark crimson variety William Seward. Mine Carnot is marked in the same way, and both of these being tender rootstocks, too much moisture seems to me to point out the reason. I have placed such plants under cover, and they will not be put in the open again unless the weather becomes finer. The swelling flower-buds do not appear harmed, nor are live roots wanting. All the same, one does not like the foliage to be in any way faulty.—S.

PLANTING OUT FOR EXHIBITION BLOOMS.

"H. S.'s" note (p. 199), to the effect that fine foliage during the summer does not always mean fine blooms on the show-board in November, reminds me of an experiment made some years ago, which, though promising enough up to a certain point, culminated in failure. I had during the previous season seen a line of Chrysanthemums grown for big blooms on the single stem system which had been planted out in front of a lean-to viney and their blooms passed beneath the front lights and brought under the glass as soon as colouring commenced. The blooms were large and deep, and set me thinking that perhaps a royal road to success might be found in planting out and covering with a glass roof when the buds began to show colour. Next year accordingly, in a portion of the kitchen garden which sloped gently to the south, I had strong uprights fixed and woodwork fitted which could enable lights to be firmly screwed down from the outside. The dimensions of this structure were as follows : 20 feet wide at back and front and 30 feet in length. The uprights at the back, which was at the top of the slope, stood 15 feet out of the ground, while those in front were 5 feet high from the ground level. By the time this framework was completed the season for the final potting had well-nigh arrived, and the natural soil was cleared out to a depth of 18 inches, its place being filled with fibrous yellow loam, with which a liberal allowance of half-inch bones and rough charcoal was incorporated, some well-rotted manure and dissolved bones being also added. Stakes cut out of inch boarding, reaching to within 18 inches of the roof, were firmly driven into the ground where each plant was to be set. The structure accommodated, as well as I can recollect, fourteen rows of eighteen plants, the rows being 2 feet distant from each other and the individual plants 1 foot apart, or about 250 plants in all. At planting time the ground was made very solid by ramming and tramping, and the plants soon began to grow vigorously and to form very large and apparently healthy foliage. The late summer and autumn proved wet, but when the lights were fixed to the roof, as the colour commenced to show on the most forward of the buds, everything looked hopeful. Curtains of oiled calico were at the same time fitted to all four sides, which curtains could be pulled up to the glazed roof or lowered to within 1 foot of the ground at pleasure. The plants, which were confined to a single stem, ranged in height from Mine C. Audigier, about 12 feet, in the back row, to the front row of under 5 feet in stature, consisting of such varieties as Meg Merrilles, Ralph Brocklebank, Val d'Andorre, and L'Adorable. The buds swelled finely and promised huge blooms, but, with perhaps a dozen or so exceptions, the whole 250 damped off and were useless for the show-board. Thus a large amount of labour and outlay was expended without result. Very possibly had the autumn been dry the experiment might have succeeded fairly well, but in such a position there is no means by which the atmos-

spheric moisture can be controlled, as is possible in a dry glasshouse fitted with heating apparatus. Even in the latter, should the sun shine upon the blooms, especially those of the large incurved section, before the moisture has evaporated, the petals soon show brown specks, which shortly develop into transparent blotches, as the tissues of the petals are destroyed. For this reason the blooms should be shaded from the sun until the petals are perfectly dry. Doubtless the blooms of highly-fed plants are more susceptible to this disadvantage than are those on plants more naturally grown, bush plants rarely, if ever, showing this disfigurement. My best incurred blooms, a batch of Empress of India, were always removed to an open verandah when the blooms were half expanded. In this position no ray of direct sunlight ever fell on the blossoms, and in no instance during the five years that I exhibited was there a sign of damping on the blooms in question, though in the glasshouses many of the finest incurred were lost through this cause. Exhibitors should pay attention to what "H. S." writes in regard to top-dressing, especially to the paragraph on the use of animal manures for this purpose. I have seen cases where such surfacing has become so sodden and caked as to render it impervious to air, and a detriment instead of assistance to the plant.

S. W. F.

FRUIT AND VEGETABLE CROPS.

SUPPLEMENTARY.

Batsford Park, Moreton-in-Marsh.—Although the crops of last year, notably Apples, were exceptionally heavy, there is again quite an average on most of the trees, while some that are nearly constant bearers are having a rest. It was scarcely to be expected that the trees could ripen so much fruit and perfect their buds for this year, but a fine September possibly helped to do this, as it was unusually hot. Scarcely any of the fruit blossoms were injured by frost during the spring, the few that were damaged not being worth mentioning. Blister was rather prevalent on Peaches and Nectarines, as indeed it usually is when there are cold winds from an easterly direction, and these were experienced nearly the whole of May. In June we had more rain than in many parts and good growth has since been made. As regards insect pests, the damage done has been less than usual. On the other hand, birds of various kinds have been unusually destructive. While the drought lasted the birds seemed unable to find their ordinary food and ate everything not closely netted. Fruit on the whole is under average size, especially that growing on walls. This is doubtless caused by an insufficiency of water at the roots in July and August, and not a little has dropped off prematurely. Standard Apples in an orchard have average crops, including Bedding, Bonfire, and Hanwell Snaring, two kinds that are rarely largely cultivated, particularly the former. Keswick Codlin, which usually bears well, is light this year, and this applies also to Stirling Castle and Warner's King on pyramid in the garden ; other pyramids that are bearing most satisfactorily are Lord Suffield, Golden Winter Pearmain, Tower of Glamis, Beauty of Kent, Ecklinville, Magnum Bonum, Margil, Cox's Orange and Ribston. Pears as pyramids are fruiting on the whole better than the Apples, and many of the trees required support by propping the branches. Williams' Bon Chrétien, Souvenir du Congrès, Clapp's Favourite, Beurré Clairgeau and Vicar of Winkfield are very heavily laden, and others, mostly of better quality, with good crops are Thompson's, Beurré Superfin, Beurré Diel, Emile d'Hest, Durondeau, Duchesse d'Angoulême, Doyenné du Comice, Maréchal de la Cour, and Beurré d'Amanlis ; on walls the crop

is not nearly so good. Apricots had to be severely thinned in a young state, as the fruits set in very thick clusters. When ripe those left are smaller than usual in consequence of the drought, but the flavour was good. Peaches and Nectarines, as before remarked, had the first leaves blistered, but the trees were a picture when in flower. Dymond does well each year ; Royal George, Alexandra Noblesse, Bellegarde and Barrington are others amongst the most reliable. All these are bearing satisfactorily, the fruit on some being rather small and on others better than usual—Alexandra Noblesse, for example. Elrige, Pine-apple and Pitt-maston Orange are the best Nectarines, but only a few fruits of the earliest varieties ripened properly ; they shrivelled and were of little use ; the later ones may ripen better. Plums on walls are a heavy crop where protected from sunblushes during the winter either by netting or dusting with soot and lime. Early Prolific (one of the most useful for cooking), Orleans, Magnum Bonum (red and white), Washington, Victoria, Kirke's Purple Gage, Braby's and Webster's Gages and Prince of Wales, amongst others, are heavily laden. The old Green Gage is still one of the best, but the fruits are much injured, if not devoured, by wasps before they have time to ripen. On trees in the open there are only a few, the buds being much injured by birds as well as unpeeled. Dessert Cherries do not succeed very well, but Morello are exceptionally good, the fruit being large and clean. Strawberries were an excellent crop, fruits large and scarcely any injured by damp or the drought, the soil being somewhat holding and the surface mulched. Four old varieties are still depended upon—Keens' Seedling, Vicomtesse Héricart de Thury, Sir Joseph Paxton and President, and they succeed well outdoors and also for pot culture. A few other varieties are grown in smaller quantities. A new plantation is made annually, and, as a rule, no plants are kept beyond three years, the first for the production of runners and the two following for fruiting. Raspberries bore well considering the dry weather, Superlative especially, which grows rather high and bears abundantly. Red and White Currants plentiful and very good. Black Currants their buds much injured by birds and were unsatisfactory, nearly a failure ; this is something of a new experience. Nuts are very plentiful. Walnut trees are very heavily laden, almost more than the branches seem able to carry.

Considerable difficulty has been experienced with vegetables in keeping up the supply, as so many have been affected by the drought. Lettuces, too, as was to be expected, went to rapid ripening, and young ones, unless sown in a permanent position and watered, were quickly burnt up. Asparagus was an exception, as it did wonderfully well ; and the same remark applies to Globe Artichokes, which were very early and plentiful. The first crop of Peas produced an abundant supply, but subsequently sowings failed very badly, the flowers being infested with thrrips the whole time with mildew. Late supplies do not promise anything better. The first sown in the open were Chelcea Gem, Veitch's Selected Extra Early, Exonian and William L. Gladiator usually does well here and was the best amongst others for succession, but not nearly so good as usual. Autocrat is also a good Pea. As so many have failed almost entirely, but few notes and comparisons are possible this year. Nearly all the early Cauliflowers were a failure. Pearl and Autumn Giant seem likely to succeed and do better. Onions came up better than last year ; afterwards they were much checked and will be small. Those sown in the autumn wintered well and were most valuable in keeping up a supply. Tomatoes have been good, being suited by a hot season. Early Potatoes were of good quality, although rather small, and up to the present there is an absence of disease. The later ones look promising, unless with the advent of rain they should commence growing out. The root crops started badly, or, at least, did not continue their growth, but these sometimes get on well towards autumn. The weather has been too dry for early

Celery, and, as gardeners generally well know, watering this or other crops has not the same effect as rain. The air has been exceptionally dry this season, and the weather was intensely hot in June and July.—J. GARDNETT.

Penrhos Gardens, Holyhead.—Apples are an excellent crop, much above the average, the fruit very fine and clean. Pears are a very thin crop. Cherries a very good crop and fine. Plums also are a very good crop; such kinds as Jefferson, Kirke's, and Victoria are a heavy crop. Strawberries have been very fine. All kinds of small fruit, such as Raspberries, Gooseberries, and Currants, are abundant.

The Potato crop here is very light, especially the early kind, but the tubers are quite free from disease.—F. W. EVERETT.

Willington Hall.—The fruit crops in this district taken altogether are very good. The Apples better than last year. Many kinds have heavy crops, particularly Cellini, King of the Pippins, Cox's Orange, Warner's King, Northern Greening, Ecklinville, Mère de Ménage, Ribston Pippin, Blenheim Orange, Kerr's Pippin, and a few other kinds. Pears are much below the average, after the heavy crop of last year. Beurre Boisé, Doyenné du Comice, Jargonelle, Marie L'Uccle, and Hossele are the best. Peaches good. Apricots a grand crop. Many kinds of Plums on walls and standards a heavy crop. Morello and dessert Cherries abundant. Black Currants a heavy crop. Red rather thin. Raspberries good. Gooseberries have been an enormous crop. Strawberries have been an excellent one. Royal Sovereign has done well outside as also in pots.

The vegetable crops have been very good, though the Peas have not been so good as usual owing to the drought. Duke of Albany is my best all-round Pea for main crop; Dickeson's Harbinger is my best early Pea, better and earlier than William the First. Walker's Perpetual Bearer is a grand late Pea, and stands the drought better than any kind I have tried. Duchess and Sharpe's Queen are very good.—OWEN ROBERTS.

KITCHEN GARDEN.

ASPARAGUS IN AUTUMN.

ASPARAGUS seems to be going early to rest this season, the stems already fast changing colour. Although the season has been so hot and dry, I never remember the growth being more satisfactory. I have often wondered whether it would be advantageous to leave the stems until just before the beds are trimmed up, or rather top-dressed in the spring, this being advantageous to the majority of herbaceous plants. As it is, I always leave the stems until they are quite dead before cutting them off, this being done to within an inch of the surface with a scythe. The beds at the same time have all rubbish cleared off, and any cavities about the stems caused by wind-waving are filled in, as a safeguard against wet running down to the roots. Wet often causes serious havoc to Asparagus, the roots often dying in great numbers. Covering the beds in the autumn or early winter with manure is not a good plan, this in very many cases causing the roots to lie wet and cold, blank spaces following in the spring. Protection from frost alone, Asparagus does not require, so anyone top-dressing it in autumn for this purpose only, may as well discontinue it. The same may also be said where manuring is carried out with the intention of strengthening the roots. Where injury from manuring in the early winter does not occur, it is where the soil is naturally of a warm nature, being sandy and well drained.

In this garden there is a large extent of ground devoted to Asparagus, both as permanent beds and for forcing. Judging by past ex-

perience, I am confident that it does not require such coddling as many people suppose. Any soil that may be brought into condition for the growth of good Potatoes would do equally well for Asparagus. The soil being light and well drained, the future success of Asparagus culture may be assured. Feeding with suitable manure and other additions which may be thought necessary for its well doing, will then promote a healthy and vigorous growth. It is where the soil is of a heavy, close, and retentive nature that Asparagus will not succeed under ordinary culture. With such a class of soil as this to deal with, the heavy annual top-dressings of manure further covered with soil in the spring only make matters worse. To add to the evil, this soil is obtained by paring down the sides of the beds and also digging it out of the alleys. The result of this treatment is that roots are cut away and left bare, the beds being altogether too high and dry. The condition of these beds under such treatment may be easily imagined during such a tropical summer as we have just passed through. To water such beds is impossible. In heavy soil my system has been to raise the whole surface, so that the beds are better drained, warmer, and the roots have the benefit of the whole surface. In some districts Asparagus is grown in rows on shallow ridges.

Anything which may be collected together of an open, sandy, and rich nature will suit Asparagus. Burned garden refuse is admirable, so also are river and sea sand and well decayed manure. Pond clearings, containing as they do decaying vegetable matter and other rich deposits, are admirable for dressing a quarter of sandy or other soil intended for Asparagus. Such material must be laid up for twelve months to become mellow, and further improved by periodical turnings. Now is the time to commence preparations, so as to get the quarter into good condition for planting next spring. Strong soils must be well drained, and their success with Asparagus will be assured. One or two summer dressings of a good artificial fertiliser, such as fish-manure, soot, and a little salt, will assist in building up a strong growth. These dressings should be given directly after cutting has ceased.

A. YOUNG.
Witney Court.

Autumn Giant Cauliflower.—Heads are now commencing to turn in, the moister and cooler weather having hastened growth to a remarkable degree during the past few weeks. At one time the plants looked as though they would turn out a failure in spite of frequent watering, the position they occupying being a warm, dry one. However, when rain fell in sufficient quantity to benefit the roots they started growing rapidly and as a result there will be an abundance of heads for some time to come or until the Autumn-protecting Broccoli comes in. I set great store on the Autumn Giant for late work, and plant a good quantity of it annually. It forms a splendid succession to Walcheren (my favourite summer variety), and if cut before the heads are too far developed the flavour is then first-rate when cooked. I generally sow the seed the first or second week in March and again the first week in April, and select in equal quantities the required number of plants from both seed-beds. They follow some early crop, generally early Peas, and the ground being in good heart, no manure is required for them. Planting in drills about 6 inches deep is practised for more reasons than one, foremost of which is the economising of water when the latter is needed, or until the plants can take care of themselves. The drills can be flooded without a drop of water being wasted, as it is then conserved and retained by the soil within easy reach of the roots. After a time should it be necessary, a final watering may be given, then

closing in the drills. The soil drawn in acts as a mulch as it were, and the moisture is then retained for a considerable time. The closing in of the drills also steadies the plants, and, as a rule, it is not necessary to mould them further. Where there is a large establishment to be kept supplied with vegetables Autumn Giant Cauliflower is one of the most useful, as it comes into use at the fag end of the season when late Peas are nearly over and people begin to tire of runner Beans. For pickling it is also much sought after on account of its firm and solid heads, without which good qualities, Cauliflowers are looked upon unfavourably by those who prefer to make their own pickles.—A. W.

Rosette Colewort Cabbage.—Until recently the dry weather has in many instances prevented the setting out in quantity of this valuable little Cabbage, but now that sufficient rain has fallen to moisten the ground to some considerable depth, there is no longer any excuse for delaying planting. No doubt in some instances planting has been unavoidably delayed, especially where kitchen gardens are small, until the lifting of part of the Potato crop has been done, and before a plot of ground of sufficient size can be had. The wet weather however necessitated the lifting of the earlier crop Potatoes to prevent them from growing out, plenty of ground will be at the disposal of the grower, and the sooner the plants are got out the better. There should be plenty of plants available from the second sowing, and these will grow away quickly and prove useful for cutting from during the winter if planted at once. The variety being small, close planting may be practised with impunity and the plants may be set out 1 foot apart each way. The Rosette Colewort is one of the most useful varieties of Cabbage we have for autumn and winter work, and so much appreciated is it here, that between 4000 and 5000 plants are set out regularly every autumn. For spring cutting, the hardy green variety is the best. The seed is sown at two different periods, viz., the first week in June and the first week in July. The plants from the first sowing follow early Potatoes, and those from the second, the main-crop Potatoes. The earliest plants are soon ready for cutting, and the ground ready for digging by the end of October, so that no hindrance is caused in the preparation of the soil for spring crops. Of course this cropping necessitates manuring of the ground being done more frequently but when the value of this toothsome, well-flavoured Cabbage is taken into consideration, this objection need not stand in the way. In colder localities sowing of the seed requires to be done earlier than mentioned. May 9, or somewhere thereabouts, is the orthodox date for the first sowing, but that is much too early for this part of the country.—S. E. P.

Beet.—A well-known gardener, who recently expressed surprise that Turnip-rooted Beets were not largely grown in preference to tapering rooted ones, would probably not have thought so had he been present at the examination of the varieties grown at Chiswick this year, the outcome of which was recently reported. There, out of so many assumed varieties that they seemed to be legion, very few indeed—practically only two stocks of the same variety—of the Turnip-rooted came at all well out of the ordeal, the flesh of the roots generally being coarse and much streaked with white. It is possible that in the north better results may be obtained from these Turnip-rooted varieties than is got in the south, although generally they grow well here. Perhaps, as a rule, we see Beet too early and growth is too slow and prolonged. Sometimes at country shows, where Turnip-rooted Beet forms a separate class, and the roots are cut to test character of flesh, a few very deeply coloured kinds of excellent quality are found, but generally there is not that same fine quality which invariably characterises the best stocks of the long-rooted kinds. For summer and early autumn use good Turnip-rooted Beet is valuable, but it is very probably due to some extent to the warmth and often drought of the period when making roots, that the flesh is so

irregular. No doubt the best Beets are from comparatively late sowings. The varieties grown at Chiswick were sown early in June, and judging by the average growth seen, that period seemed early, for two-thirds had developed coarse roots and abnormal leafage, showing after all, if no other good was done, how many were entirely unsuited for garden culture. But then, comparing the flesh of the best of the long-rooted kinds with that of even the best of the Turnip-rooted varieties, there could be no doubt whatever as to which was the more meritorious, the flesh of the long-rooted kinds when sliced so as to expose it fully to view, showed the richer and, indeed, beautiful colour, flesh smooth, even, refined and juicy; and when cooked as pretty as the most exacting could desire.—A. D.

Thinning Spinach in autumn.—It is surprising what grand crops of Spinach are obtained in a dripping season such as we have had of late. Few vegetables show the effects of early frosts more than Spinach, the leaves being very tender. On the other hand, I find by varying the treatment one can secure good crops less liable to injury. The early lot—often sown at the end of July for winter supplies—if left in a crowded condition is so soft and poor as regards size of leafage, that it is injured by only a few degrees of autumn frost, whereas when thinned and the hoe kept going between the rows the leaves are much finer, harder, and in a better condition to resist a sudden check. In fields Spinach is seen in better condition than in gardens, because there is less crowding, and from this the soil is used to thin the plants. This shows the importance of free growth. For late winter or, more properly, early spring use different treatment is given, the plants being sown in the first week in September. Much thinning is unnecessary, as growth is much slower, and the plants make little progress till the winter is past. These plants are invaluable, as they give a supply till the spring-sown turns in, and last long after the July-sown has run to seed.—G. W.

CAULIFLOWERS.

I QUITE agree with most of what Mr. Wythes (p. 114) says on the merits of various Cauliflowers, and probably the points on which we are not at one are simply the results of differences of climate. For instance, Mr. Wythes winters Early London in the open, a thing that would be impossible here, and in the open, too, wintering during nine years, and that the past one, having been sufficiently mild to allow Cauliflowers to come safely through. Of course, this need not prevent one from trying the experiment and profiting by it in such exceptional winters, but it would not do to place any dependence on the result being satisfactory. This will account for the difference in date of cutting this variety in Middlesex and Suffolk. Again, with regard to Walcheren, there must be, as Mr. Wythes suggests, very distinct strains sent out under this name, and some of those I have grown have turned out to be worthless. I succeeded a few years ago in obtaining a most useful selection, which comes in a little later than this variety is supposed to do, but it is all the more valuable to me, as it succeeds earlier varieties in good time and brings me more into touch with spring-sown plants than I should otherwise be, and I have not to use the early forcing frames to raise spring stock. Through the kindness of Mr. Wythes I have been enabled this autumn to sow some Walcheren of the stock he grows, and I shall watch the result with interest. I think that the only difference between the best selections of Walcheren Cauliflower and Walcheren Broccoli is one of name, as suggested by Mr. Wythes, and that there is no need to purchase both; if one obtains a good strain under either name, the only use of keeping two names being to give seedmen a chance of selling two packets of seed in the place of one. Pearl with me is pure white, very shapely, and of good size, and I believe it answers in these points to the description under which it

was first distributed, so the pale yellow Chiswick pattern cannot be true. Dwarf Erfurt Mammoth is very fine indeed for the earliest crop, and while it succeeds so well when sown in the autumn, I shall never again try the Snowball type sown in spring. Not that this latter has no value; it is, in fact, indispensable when the autumn-sown plants go wrong, but for weight of crop on a given area it will not bear comparison with the Erfurt Mammoth, and the Chiswick verdict appears to have been again at fault here, as it classes these two as the same. The fact is, another trial is needed, and seed growers too should take greater care of such easily crossed and spoiled things as Cauliflowers and all members of the Brassica family which flower simultaneously, for there appears to be no doubt that many poor strains that want weeding out are in the market.

J. C. TALLACK.

Runner Beans as a wind-break.—I had not previously to visiting Buxted Park seen any Beans sown to form a wind-break to orchards. That however was so in this instance, a double row of Beans 10 feet in height and quite thick, running the entire length of the orchard on its windward side, and to the dwarf trees beyond, affording excellent protection. All the same, the pod produced had been enormous. I had ample opportunity to test the value of this wind-break, for there was a fierce hurricane blowing when I was there.—D.

Potato Prime Minister.—This variety, which has rather long, white tubers, though not kidney-shaped, has this season proved to be, both on chalk at Dorking and on sand at Egham, a heavy cropper. There has been nothing amongst new varieties seen at Chiswick for the past two or three years that could compare with the splendid crop and extremely fine tubers Prime Minister has produced. Both chalk and sand have the reputation of producing Potatoes of high edible excellence, but the chalk-grown tubers certainly seem to be the best keepers.—A. D.

Pea The Mummy.—This is also known as the Crown or Cluster Pea. How and where the type originated does not appear to be known, nor is it generally regarded as a species, but simply a variety of the cultivated garden Pea. There are two forms of it, one bearing white flowers, the dry seed also white, and one with brown seed; the flowers two-coloured, the standards white, the wings bright rose. Their growth is so peculiar that they deserve to be cultivated as curiosities. The leaves, which are rather far apart at the base of the stem, become more closely set towards the upper part, where the flowers make their appearance, not in regular tiers one over the other, as other kinds of Peas, but in a kind of cluster, the stem becoming broader here and generally fasciated, by producing a number of leaves, from the axis of which the flowers issue.—R. D.

Late Coleworts.—It often happens one has a good number of plants of a nice size left in the seed-beds at this season after the final planting. These may be made good use of if planted out thickly, say in rows, 15 inches apart in the row, and half that distance between the plants, in fairly good land. I admit these late plants fail to heart, but they make a nice growth and will often be uninjured by severe winters when others of larger growth are killed. Owing to so little space being available for the spring cuttings, as those come in just ahead of early spring Cabbage, and are of excellent quality. As regards variety, almost any strong plants of the Rosette or Hardy Green will do. The latter makes less head and is less dwarf than the Rosette. On the other hand, it is harder. The Little Gem and Favourite planted late have the same good qualities as the Colewort; indeed, I prefer Little Gem to the Hardy Green for earlier supplies, say from November to January. It is equal to a mild Brussels Sprout in quality, and just the size for table.—S. H. B.

Good cropping Beans.—The French and Runner Beans have this season been excellent in

quality, with no lack in quantity where well grown and the plants given ample room to develop. In the new climbing French Bean we have a grand gain, as in future very few true Scarlet Runners will be needed, the crop on the new kind being so heavy and the quality so good that no one with a scarcity of stakes need grow Scarlet Runners, as these noted are superb and give a heavier crop than the older Scarlet Runner. When these new Beans were first introduced I had my doubts as to their being continuous croppers, but this doubt was speedily removed, as last year I had splendid crops. This year, with more plants, more space, and attention to the haulm, the return far exceeds my expectations, the pods being perfect in shape and of a good colour, superior in this respect to many runs. For gardens where good Beans are required from mid October the new type is of great value, being much earlier than the old runner and also bearing late. I make two sowings, and thus have a good succession.—G. W.

GARDEN FLORA.

PLATE 1087.

THE TREE POPPY.

(DENDROPIOMON EIGIUM.)

(WITH A COLOURED PLATE.*)

We have in this distinct and pretty plant—at present, I believe, the only known species of the genus—what promises to be a most useful and ornamental plant among things of a shrubby habit of growth. It is this essentially perhaps, as the maximum height given for it is only 3 feet. As a consequence, it should make a most desirable and pretty object for beds on the grass or for the front of the shrubbery, or, again, in warm, sunny and well-drained positions in the rock garden. In any or all of these positions it is calculated to make both an interesting and attractive plant—something quite fresh and distinct in the combination of its glaucous grey leaves and clear yellow, Poppy-like blossoms. Upon two occasions only, I believe, this year has the plant been seen at the meetings of the Royal Horticultural Society, when Mr. Ware was the exhibitor of quite small pot plants, from which the visitor could scarcely realize the capabilities of larger and better-established examples; yet, small as these undoubtedly were, they were quite attractive enough to arrest the attention of those on the alert for novelties. At Kew, in the hardy plant department, however, a much larger plant has been blooming this summer, so profusely, indeed, that it has flowered itself to death. This plant was raised from a cutting. In its stead at the present time is a plant of much greater vigour and possessing greater promise, that has been raised from seed received direct from the Californian home of the plant, so that, provided it passes the coming winter in safety—for the plant is even yet full of growth—a better idea of the established plant will be forthcoming next spring or summer.

So far as is known of its requirements, a warm and sunny spot and planted in a rich sandy loam seem best suited to it. Belonging, as it does, to the Poppy family, there is every hope that a supply of seeds may soon be forthcoming, since so many of this order are peculiarly prolific in seed production. The coloured plate with the present issue of THE GARDEN gives a good idea of the flowering sprays of this plant, and in the lance-shaped leaves conveys a

* Drawn for THE GARDEN by H. G. Moon in the Royal Garden, Kew. Lithographed and printed by J. L. Gottart, successor to Guillaume Sevres.



good idea of the foliage on small plants. In the more vigorous plant now growing at Kew the leaves are more broadly lance-shaped, inclining to ovate-lanceolate. The plant has a stiff, erect habit of growth, which is also bushy and compact. In this instance the shrubby habit and Poppy-like flower-heads render the name of Tree Poppy an appropriate one. E. J.

THE WEEK'S WORK.

KITCHEN GARDEN.

CAULIFLOWERS.—Young plants of these raised at the end of August or early in September should now be ready for putting into their winter quarters. Some of the biggest may be carefully lifted from the seed bed and planted in favourable positions under south walls, where they will, if the winter is kind, come safely through and be ready for use well in advance of those which have again to be transplanted in spring. It is only fair to add that winters which permit plants to exist in such positions here are very rare indeed, and I never depend on the practice for a crop, neither do I recommend it except as a bare chance where there is plenty of plants to risk. Of course there are many gardens in the country situated in favoured spots, as, for instance, near the south coast, where failures are as rare as are successes in colder situations, and for such no plan can answer better, as the plants become well established before winter, and are in the best position for growing. Little, if any, manure should be dug in for these plants, and when my advice to give a good dressing of gas-line to the soil for Tomatoes on the walls was followed, the same plants were in good condition for the Cauliflowers, and any further feeding they may want will be best given as a mulch in spring. A slight breaking up of the soil is all that will be necessary in the way of preparation; the plants may then be planted firmly at about 15 inches apart and deep enough to prevent high winds from twisting them at the collar. Another system, and one which is safer, is to plant under handlights on a warm border, as in this way the plants may be better protected in severe frosts and ventilation can be readily regulated in accordance with the weather. Four permanent plants, one near each corner of the handlight, is a suitable number, and the intervening spaces may be utilised for a few extra plants, say nine in all, under the regulation sized handlight; this will be better than crowding in more plants, the main object being to encourage the few rather than to save the many. The best system for the bulk of Cauliflower plants is, however, to winter them in frames or pits either pricked out or potted up singly in small pots. I prefer prickling out the plants, provided a suitable soil is used, as they then give less trouble than do potted plants, and I find them equally ready to start away when planted out in spring. My practice is to utilise a pit in which Cucumbers or Melons have been growing for summer fruiting. The soil is cleared off this, and to the inside lining, which is left undisturbed, is added sufficient cold, short manure to raise the bed to within 18 inches of the glass; all is then trodden firmly to prevent any objectionable settlement and surfaced with from 4 inches to 6 inches depth of good soil. That in which Cucumbers have been grown when mixed with waste from the loose stalks answers very well indeed. The plants are pricked out into this some 4 inches apart and well watered in. After root action has again commenced air is admitted freely at all times except during severe frosts. The seed rows should be "rogued" before lifting the plants, as it is useless to fill up valuable space with plants out of character or which are far ahead of the others in growth. Look out also for blind plants and others which show any defect, such being useless. Cauliflowers of the Autumn Giant type now nearly ready for use should be dealt with in accordance with the weather. Should this still remain mild, nothing need be done but to tie the

upper leaves so as to form a canopy over the flower; this will throw off excessive wet and be a sufficient protection from slight frost. If, however, severe frosts appear, the plants will be better to lift such plants with a good ball of earth and anchor them thickly into a deep pit, where they may have the protection of glass and mats overhead by night. As each row of plants has its roots covered with soil a good soaking of water should be given; this will prevent flagging and consequent loss of quality. Where pits or similar quarters are not available, a useful alternative will be to lift and lay in the plants under the shelter of a north wall where they will not be reached by direct sunlight, and these can be protected with mats or Bracken when necessary.

ENDIVE.—It is full early as yet to lift and store the main-crop Endive, and I like to leave all such until compelled by the weather to get them under cover, for plants which are still growing are not nearly so liable to injury from moderate frosts as are those which have already formed good hearts. The latter, however, will be best under cover of some kind, as they soon succumb to alternating frosts and rains. If protection cannot be afforded to these where grown, they must be lifted and transferred to frames, treating them much as I have recommended above for storing big Cauliflower plants. Before lifting, which should be done on a dry day and with the plants in dry condition, remove the plot and tie a strip of binding round each plant to prevent breakages in moving. Lift the plants with good balls of soil and water in as replanting proceeds, taking care to water the roots only, as water poured in amongst the leaves would lead to quick decay. I find that the Broad-leaved Batavian bears storing much better than the curled varieties. It is useless to attempt storage of Endive under leaky ashes; if such only can be given them, the plants had better be left as they are and covered as needed with sand pans. Room should be left for storing a big lot later on, as the plants which are now only half grown will be most useful for cooking as well as for salads. For such plants I reserve a late Pease house and do not get them under cover until most of the Peach leaves have fallen.

LETUCE.—Forward plants of Brown Cos or other Lettuces must also be stored in a manner similar to Endive. They are in a very succulent state just now and will need careful handling, but will pay well for the trouble. With a view to form a succession to the above, it will be found a good plan to prick out now, rather thickly on the gentlest of hotbeds, a frame of Paris Market or other Cabbage Lettuce; these may be kept gently growing, and will provide salading over a long period and at a time when it will be highly valued and generally scarce. Seedlings raised for wintering in the open and which are now big enough for transplanting should be seen to without delay, so that they may have time to gain hold of the ground before growing weather comes. If they do not do well the plants will hard and stunted and refuse to grow away properly in spring. Various positions may be chosen, but always with full exposure to the south. Blank places under south walls may be filled up, setting out the young plants at 6 inches apart for Cos varieties and 4 inches in the case of Cabbage varieties. Every other plant may then be lifted and replanted in spring, or cut for use before being fully grown, leaving the remainder with plenty of room to develop. For this purpose the biggest plants in the seed bed should be chosen, as these will, if they winter safely, turn in early in spring. The earliest Cos Lettuce to become fit for use with me is Wordley Gem, and sufficient of this should be planted to form a three weeks' supply, after which the Brown Cos will fill the gap until those sown under glass early next year are fit for use. In addition to planting close under walls, I like to put out a good plot on a south border at some distance from the wall; in fact, I prefer this position to the other for the reason that I find them safer during the winter, as they are not so subject to injury from the rapid thaws, which add so much to the danger from sharp frost. It is

quite happens that the soil immediately under south walls is rendered perfectly bare by the action of a bright winter sun, and a foot or two of it and the plants are safely covered with a snow blanket, and it is this which saves the plants in severe winters. The plants may be dibbled in at the distances given above and thinned out in spring. In getting the young plants it is wise to leave a good sprinkling on the seed bed at regular distances; by doing this we have an additional chance of getting early Lettuces.

FRENCH BEANS.—The growth of these in the open garden has been slow of late, there having been but little sunshine to help them. In my case I have on the latest outdoor sowing an excellent crop now swelling off, and shall with care be able to prolong the season beyond its usual limits. Cooler nights, however, give me warning that if growth is to continue protection must be afforded. With plants in long single rows this may best be given by bending over the rows at frequent intervals some long supple sticks strong enough to support stout mats or strips of canvas and long enough to keep these well above the plants. Successional sowings under glass will be imperative at frequent intervals, and the earlier lots now in an advanced stage must be given a good brisk temperature of about 60° and plenty of light. Frequent doses of weak manure water should also be given to plants already fruiting.

J. C. TALLACK.

OUTDOOR FRUITS.

HARD FRUIT.—The gales towards the latter end of last month did considerable damage to the orchards in this district, by causing a number of the fruit to fall, very little of that from high trees being of any service. Catillac and other varieties of Pears that should have hung on the trees for at least another three weeks were all brought down. This should be a lesson to intending planters, for where orchards are exposed and the trees planted as standards there is but a poor chance of saving the fruit. All but the latest kinds will now be gathered, especially in the southern districts. There are some kinds, however, of both Apples and Pears that should be allowed to hang as long as possible. Do not attempt to gather such varieties as Royal Russet, Rosemary Russet, Claygate Pearmain, Nonpareil, Norfolk Beauvin, Easter Pippin, and other long-keeping kinds. These, if the orchards are sheltered, will continue to grow for some time yet, and will therefore be more serviceable later on. Late Pears either on walls or pyramids, the flavour is much improved if the fruit is allowed to hang as long as possible. It is not often that they have frost of sufficient severity before the middle of November to do them any harm. Winter Nellie is incombustible. Espelette, Beurré Beurré Rance, Jean Witten, No Plus Morris, Josephine de Malines, Bergamotte d'Esperen, Clou Moreau, and others that usually do not ripen till after Christmas will be greatly improved if allowed to hang till early in the next month. Great care, however, should be exercised in protecting them from the birds, as these usually pick holes in them by which the wet enters, causing them to rot wholesale. It is these late Pears that are the most useful, as during the time they are in season dessert is rather scarce, there being no Peaches or Plums to help them out. There is quite as much art in keeping fruit as in growing it, therefore special care should be taken to see that this has proper attention.

ROOT-PRUNING AND TRANSPLANTING.—Owing to so much wet it has been next to impossible to get on with this work, and where a quantity has to be done it should be pushed forward with all speed, that the trees may get established again before winter sets in. The pruning of Apple trees may also be taken in hand with safety. In fact, every effort should be made to get such work done before the weather gets too bad, as it is very unpleasant to stand about on cold, wet ground in winter; besides, by timely pruning the trees are better able to mature their wood. All gardeners

know the difficulty there is in getting the work done at the proper time, and where the staff is limited much care and forethought are needed that no labour be wasted. I am no advocate for the close pruning system, believing rather in the trees making a more natural growth. It is, however, necessary that both root and branch should be properly manipulated if the finest results are to be obtained. It is useless to prune with a view of obtaining fruitfulness unless the operation be properly performed, and this is not done by cutting away strong shoots to obtain fruit buds, as the reverse is usually the case. The main point is to obtain short-jointed, well-ripened wood, and this cannot be if the branches are overcrowded. It is an uncommon thing to see the branches of both pyramid and bush trees when laden with fruit assuming a weeping condition; this shows that they have allowed the growth to be not shortened sufficiently to enable them to withstand the weight of the crop. Some varieties, such, for instance, as Lane's Prince Albert, are often so weighed down with fruit that it impossible to keep the trees in anything like a good shape. These should have their branches so thinned out that the sun and air may penetrate freely to the centre of the tree. Where the ground is cultivated, do not attempt to get upon it during wet weather; rather wait until the surface has dried a little. Trees on grass and in plantations where no other crop is grown may be pruned at any time. See that all cuts made are clean, and do not leave any of the prunings lying about, in case there should be the eggs or larvae of any insect pests attached to them. When the has been done, the stems of the trees should be dressed to catch the winter moths should they attempt to crawl up them.

BUSH FRUITS.—Where it is contemplated making new plantations of these the work should now be taken in hand. On cold, retentive soil it has been impossible to do anything of late, but as soon as the ground is in a workable condition push forward with all possible speed. If the ground has not been dug it will be far better to plant as the digging proceeds, as by so doing it will save treading on the ground afterwards. Both Red and Black Currants require good land to grow them well. The soil in this district seems to suit the latter admirably, as the fruit grows to a good size. It is always well to plant two or three varieties, as some are much later and harder to ripen than others. Black Napier, Black Champion, and Lee's Prolific Black are the varieties known here. To obtain fine Black Currants it is necessary for the bushes to make a free growth, for as the fruit is produced on the young wood, the more robust this is the larger the bunches and finer the berries. Wood of this description does not start into growth so soon in the spring, hence the reason the bushes do not suffer so much from late spring frost. When they are of stunted growth the wood ripens prematurely and the buds swell to an extra size before winter, and at the first approach of warm weather they are excited and push forth their leaves, whereas when the growths are robust the bushes retain their foliage till late in the autumn and the buds do not become so prominent, and on that account are not so liable to suffer. Where young bushes have been prepared, as should be the case in every garden, they may be carefully lifted with balls of earth and transplanted, when they will not fail to give a crop of fruit next season. Red Currants are different from the Black in their mode of fruiting, as some of the finest bunches are produced on spurs. The aim with these should be to get a short-jointed sturdy growth. This in some degree may be accomplished by lifting the trees periodically, though on light soils it seldom that they make too much or too strong a growth. Where quantities are devoted to these fruits, the bushes in the first instance may be planted 3 feet apart each way, and in the case of the red varieties if they make too much growth they may be taken up and transplanted further apart, and every other of the black ones should be removed when they commence touching

each other. The black ones may be pruned at any time, leaving as much of the young wood as practicable, just taking out the weakly and ill-placed shoots. It is not well to overcrowd the bushes with wood, as this prevents the young growths from growing sturdy. The shoots should be at least 9 inches apart. The pruning of Red Currants is better deferred for a week or two longer, that the bushes may be dressed directly afterwards, for where birds are numerous they often start on the buds when the trees are pruned unless checked in time.

ORCHARD HOUSE (COOL).—Most of the fruit in these structures, unless it be a few late Pears or Apples, will have been gathered, and where the trees are grown in pots they should be lifted and plunged outside, the ground between them being mulched with litter from the stables. This will act as a preventive against having the pots split with frost later on. All such trees may now be pruned, that the wounds may heal over before winter. Where the trees are planted out, the borders should receive attention, giving them a soaking at least once a week that every particle of soil may be thoroughly moistened. It is a great mistake to allow the roots to dry out, and then to simply give the borders a soaking cast, as the trees are starting to grow. Much of the mischievous increase of the buds falling before they have expanded is owing to this kind of treatment. These houses are useful places in winter for storing various kinds of vegetables and salads in, that they may be protected from the severity of the frost; therefore where practicable the trees should be lifted and taken outside.

H. C. PRINSEPI.

ORCHARD AND FRUIT GARDEN.

LIFTING UNFRUITFUL TREES.

OCTOBER is a very busy month in the hardy fruit garden, especially when the collection of trees is an extensive one, as that is the best time in which to lift all trees that have given an unsatisfactory account of themselves for the past two or three seasons. When trees are prone to make too much growth and bear but sparsely or not at all, lifting is the best method of restoring them to a fruitful condition. This invariably brings about the desired result, and is preferable to root-pruning, which I neither practise nor advise, unless in the case of trees that are too unwieldy for lifting. Lifting, if properly conducted, does not mutilate the roots to the same extent that root pruning does, and the tree recovers from the operation much more quickly. Root pruning if roughly done may completely ruin a tree, and even when carefully carried out it has such an effect on a tree that it often takes two seasons to recover from the shock. After giving both methods an impartial trial, my experience is that lifting is not only the most natural course to adopt to bring the trees into subjection, but when properly performed the desired effect is brought about the following season, and the trees bear the year after that. The chief aim in lifting, therefore, is to check an exuberant and unfruitful growth, to direct the energies of the trees into another channel as it were, and cause fruit buds to form instead of a preponderance of wood buds. Once the trees are brought into subjection and they start bearing, they seldom give any further trouble. If lifting were only more practised, so many complaints about unfruitful but otherwise healthy trees would not be heard of.

The foregoing remarks apply to garden fruit trees of nearly all descriptions, also to bush and pyramid trees for market. Standards can

seldom be dealt with in this way, and root pruning must then be resorted to.

LIFTING

is a very simple operation and is really the same as lifting any other tree or shrub, only with this difference. In the case of a tree or shrub, a great number of the roots are destroyed in the operation, while with fruit-tree lifting the trench is opened far enough away from the stem itself to enable every root as far as possible to be searched for and preserved—or rather it should be so done. The opening of the trench should be commenced some 8 feet or 10 feet from the stem of the tree, if the latter is of any size, and continued all round if growing out in the open. If a wall tree is to be dealt with, then the trench will necessarily be a semi-circular one. The soil must be carefully forked away from among the roots, damaging them as little as possible, and as fast as they are unbared, pegging them back out of the way. When lifting pyramidal and bush trees, my own practice is to work the soil away until there is a ball left about 4 feet in diameter. The soil is then carefully worked away from the base until the ball stands upon but a very small quantity of soil. It is then unseated by means of levers, and when on its side, advantage is taken of this opportunity to cut away any roots showing an inclination to grow downwards. Soil is then spread on the bottom of the hole in sufficient quantity to bring the surface of the ball up to the proper level, the tree is placed in position, and then filling in commences. A fair proportion of new soil is generally placed in the trench, more especially to lay the roots in. The quantity and quality of this depend entirely on the condition of the trees, as it is necessary in many cases—very often with Peach trees, for instance—to lay the roots out in a poorer compost than that in which they have been growing. No hard-and-fast rule can therefore be laid down regarding this point, but if nothing but fresh loam or soil, entirely devoid of manure, is used for Pear and Apples there will be no fear of erring in the wrong direction. Cherries, Peaches, Nectarines, and Plums should have lime rubble mixed with the new soil, but avoid manure, as this is always best applied from the surface. As the filling in proceeds, the roots must be laid out according to the various levels at which they issue from the tree, after trimming off and paring down the broken ends, making the soil firm about them by treading. Watering is necessary in a dry time, but will hardly required after the rainfall of the past few weeks. Should the ball, however, be found at all dry, do not hesitate about giving it a thorough soaking, forming a basin about the ball to ensure the water entering it in sufficient quantities. I have lifted trees before now when the base of the ball has been found to be extremely dry and the surface quite moist, and in such cases it takes a considerable quantity of water to thoroughly moisten the roots properly. When the filling in is completed, mulch the surface in all cases with litter. When

ROOT PRUNING

has to be done, only one-half, or the roots on one side of the tree, should be operated on at one time, missing a season before doing the other side. A trench should accordingly be opened some 6 feet or 8 feet from the stem, or as far as the branches extend. This is a safe rule to follow. The trench should be 2 feet wide and deep enough to find the roots. A kind of tunnel or drift should be cut under the ball to as far as the stem to ascertain whether

any of the roots descend into the subsoil. If any are found they should be cut through, and the tunnel or drift carefully filled in again and rammed firm. The strong roots found in the trench should be cut off close to the ball, but save all fibrous roots for laying out again. In this case fresh soil is beneficial for the new roots to work into, and if the trees are growing in a grass orchard, they should have the benefit of the turf removed from the surface. In this new roots will soon be formed, and of the right character, if it is chopped up and placed about the existing roots when filling in the trench.

With these few general directions to serve as a guide there should be no difficulty in carrying out the operation of lifting where found necessary, and there need not be the slightest fear as to the result if the advice tendered is adopted. The reason why this kind of work is recommended to be done in the month of October is in order that advantage may be taken of the fact of the trees having their leaves still hanging upon them, as they induce quicker root action than would be the case if lifting were deferred until after the leaves fall.

A. W.

Grapes and Tomatoes at Ponder's End.—To afford an idea of the immense quantities of Grapes and Tomatoes produced in the neighbourhood of Ponder's End alone, I may mention that at Mr. Joseph Rochford's no less than 100 large span-roofed houses are filled with Grapes, and that 80,000 Tomatoes are grown in pots. Other growers also abound in the district. As a rule very few varieties of Tomatoes are grown at these establishments, a seedling of their own more often than not being preferred to all others. At this date a little artificial heat is generally applied, coupled with a brisk airy atmosphere, which has the effect of finishing off the later fruit.—J. C.

A good Peach.—At this season when planters are making their selections for house work it may not be out of place to note the qualities of Early Grossé Mignonne, a splendid forcing variety and equally good for midseason and later crops. Unfortunately this variety is rare, and the old Grossé Mignonne is often substituted for it. This, though good, is inferior to the early variety. For south walls the old variety is excellent, but I do not advise it for hard forcing. With me the old one does not set so freely as the one advised if grown for very early crops. The true Early Mignonne has globose glands and large flowers. The fruit is of fair size, melting, and of specially good flavour. It is very handsome, and the tree is one of the most prolific I have grown. It is equally good for open wall culture and quite three weeks earlier than the old variety.—W. B.

Peach Golden Eagle.—Those who require a large late Peach will find the above well worth sowing on a west or even cooler aspect in southern parts of the country. This year my fruits were all over on a west wall by September 20. I have gathered this Peach late in October, and had presentable dishes well into November. Golden Eagle is a large Peach of a lemon colour with a very fair flavour for so late in the season. It is much superior to Salway in quality, and it not only bears freely but ripens out of doors. It is a distinct Peach, and with good culture may be grown to a large size in the southern parts of the country. I grew this variety on a north wall for the latest dishes, and though I do not advise that aspect in all parts of the country, this Peach where it does well is valuable. This variety must not be confounded with Golden Reth Ripe, a much earlier Peach, but not its equal in flavour.—G. W.

Pear Doyenne du Comice.—This deservedly popular Pear is now grown in almost every garden, but a wall is usually afforded it. Although larger fruit can be produced on wall trees than on espaliers or pyramids, yet it does very well grown in the latter form. A friend of mine had

some grafts of this variety from me three years ago, and worked them on to some old worthless Bramley. The trees are now full of vigour and bearing splendid crops of medium-sized fruit. The soil of his garden is a strong loam. I think it is well it should be generally known that this delicious Pear will do well in the open, as many of our finest flavoured sorts are useless for dessert if not grown on a wall.—J. CRAWFORD.

OPEN-AIR PEACHES.

That Peach culture on open walls is greatly on the increase there cannot be the slightest doubt, and from the number of orders for trees for that purpose nurseries are receiving, it is evident that it will soon be as general as it was twenty years ago. Previous to coming to reside in this county I thought, like many other gardeners, that the alterations in the seasons for the worse had rendered Peach growing, except under glass, practically impossible except in gardens favoured by perfect shelter and in a warm, well-drained soil. Having, however, during the last few years seen so many healthy trees and such fine crops of fruit in gardens in the midlands, I have come to the conclusion that failures—particularly in the more favoured counties of England—are in the majority of instances principally due to want of enthusiasm and a lack of attention to the trees in April and May. No doubt there are exceptions to this as to every other rule, and I would not for a moment advise planting where the situation is close to the margin of waters and subject to late frosts annually occurring; in these cases Pears and Plums are better to be substituted. At Burghley Hall, Kettering, open-air Peaches are a great success, at the latter place such sorts as even as Barrington and Walburton Admirable ripening satisfactorily, although, for my own part, I would not advise a later Peach than Barrington in these parts. Such is the vigour of the trees at Grove Hall that Mr. Welsh, the gardener, finds it necessary to lift every alternate year, prunes back strong roots and relay nearer the surface. This is one of the few places at which Peach trees on outside walls are daily syringed from the time it may be safely practised until the fruit commences to colour. A gardener near Gainsborough told me only a few days since that he had decided to plant trees this coming autumn, he having seen the fruitful trees in various gardens in the neighbourhood, and it is to be resumed in another garden some nine miles from here where it has been abandoned for years. In making the borders, or in adding new soil for the roots of young trees, many still do what our fathers, who were favoured with more genial springs and summers and autumns than we, scrupulously shunned, viz., using the very best loan procurable and adding to it farmyard manure. Lately taken up a common or pasture that will not feed a Welsh sheep is the best for young Peach trees for the first few years, that is, unless you prefer for Vines being added in the form of surface dressings when once the trees are fruiting freely, and the batter to prevent a coarse, sappy growth, one-fourth ordinary garden soil may well be added, not, of course, forgetting correctives in the form of mortar rubble, wood ashes, or road sidings. We seldom hear of stations, but in low-lying gardens they are capital things, as frequently young trees not favoured with medium-sized roots to start with are very apt to form and send down close to the wall the first season or so new ones the size of walking sticks; nor are these always discovered when root-pruning is performed when the tree is completely lifted from the ground. Stations composed of concrete or iron slabs or tiles compel these to take a horizontal course, and the excavator discourses them with ease. Except in extra warm, dry gardens, I would always plant half-standard, as I think the locality of the union of the tree with the stock, and in some varieties more than in others, is liable to become affected by frost and wet in winter, more particularly in spring, when the sap is on the move. This is

more necessary now-a-days when so many amateurs try their hand at Peach growing, and the increased demand results in many being worked on most unsuitable stocks.

I like good copings to Peach walls; firstly, because they effectively throw all drip of the stems; and secondly, because nets or tiffany for bloom protection are more easily arranged. No coping at all, however, is far better than one only an inch or two wide. Order the trees early, choosing and marking your own, if possible, and insist on careful packing and the envelopment of the roots in wet hay or shavings, even if a little more charge is made. Plant shallow, slightly mounding rather than otherwise; ram firmly, watering, if necessary, previous to laying on the final coat of soil, this being much better than saturating the actual surface, especially if sharp weather should quickly follow. Mulch with a non-stimulating material, rough leaf-mould being the best, and secure the tree to the wall by one or two stout ligatures only, to allow for any light settlement.

All these instructions may be carried out to the letter, yet woe to the trees which, on putting forth new growth in spring and becoming, as they are almost certain to do, attacked by that insidious and, if allowed only slight grace, fatal enemy, aphides, are left for only one week to take of themselves. Insecticides are cheap enough now-a-days, and one good syringing with quassia extract immediately fly appears will clear it off. My advice is, even where labour is scarce, let ordinary work be suspended for a few hours once weekly, as that can be rectified afterwards. Do not the extension system of training, as under it the trees are nearly so liable to gum and canker as when restricted; and, if anything of the allotted wall space becomes covered in less than half the time, if spider mites appear in June, repeat the quassia dressing and syringe with clear water the following day. Lay the wood in thinly, mulch and water twice and in extra dry summers thrice between setting and ripening, and do not scruple to cut out all useless wood as soon as the fruit is gathered. As regards varieties, I think it is impossible to improve on Mr. Young's list in the issue of the 19th. I would, however, venture to add Dagmar, a Peach too little known and ripening about the same time as Royal George. Its constitution is exceptionally strong, while it fruits freely, is of a rich red colour, and excellent flavour. Like Mr. Young, I can speak in terms of the highest praise of that grand Peach, Dymond.

Notts.

J. CRAWFORD.

Lifting Vines.—The practice of lifting Vines so that no fruit satisfactorily is now very common, good results following when the work is carried out with care. Many failures occur from want of attention to details. My experience is that lifting should be done either before the foliage gets too advanced, or when the Vines are quite dormant. When there is sufficient vitality in the foliage the Vines quickly recover, new roots being formed before they go to rest, and a good start is made the following spring; but when lifting is too far advanced, it will invariably fail immediately after the operation, in spite of daily syringings, and the eyes do not plump up nor are any fresh roots formed, a poor weak start or none at all being made the following spring. Vines lifted when quite at rest, start well enough as a rule if allowed to come on gently and not forced at all.—J. C.

Plum Belle de Septembre.—Where a succession of cooking Plums has to be maintained, the above variety should be grown for late September supply. Grown on an east wall, the fruit comes into use after the Magnum Bonum and before Autumn Compôte and Late Orleans. This year the fruits have ripened earlier than usual, but in a normal season they remain the time they mature here. It is a very fruitful variety, and bears equally as well as Victoria when trained on a wall. It is somewhat doubtful if it would be of any service for market, but for private consump-

tion there can be no question as to its value. The fruits attain to a large size and I can highly recommend them for bottling, when they will keep for a considerable time and prove useful at a time of year when fruit is scarce.—A. W.

Pear Thompson's.—This, one of the highest-flavoured Pears in cultivation, ripens towards the latter end of October and beginning of November. It has a flavour quite unlike that of other varieties and is most delicious when thoroughly ripe. This variety has on more than one occasion been adjudged the best-flavoured Pear at the Hereford fruit shows. I have known it do well as a half standard, and it is first rate as a bush, it then bearing most profusely. It is also good on a west wall as a cordon, and for orchard-house work cannot be surpassed. This season the crop is unusually heavy and the fruits are extra fine. On the Pear stock the tree is apt to break rather rank growth necessitating the lifting of the main roots and laying them fresh in new, but rather poor soil. This brings the tree into good bearing condition and is better than root pruning. On the Quince, growth is slow and the tree then is prone to fruit too freely, and unless well thinned the fruits come small. This variety should be double grafted on the Quince, and if worked on a vigorous-growing kind, a more robust constitution is imparted to it, and at the same time growth never becomes too gross. I have seen it recommended as a good sparser Pear, but after several years as such, I cannot speak well of it, as it fruited but sparsely and was altogether unprofitable.—A.

Cherry Early Rivers.—Those who are contemplating planting Cherries this autumn, and require a first-rate early kind, cannot do better than select this variety for the purpose. In addition to its earliness it combines size with good flavour, and the colour is black. It will succeed well trained on a wall, and it is also good when grown as a spreading bush and can then be easily netted. I have heard of it as a standard, but have had no experience with it grown in this way. I consider this to be the finest early Cherry we have. It is a capital cropper, and the tree is hardy and vigorous and worthy of extended cultivation.—S. E. P.

THREE GOOD LATE APPLES.

In Northern Greening, New Northern Greening and Yorkshire Greening we have a trio of good, useful, late-keeping Apples, and all are excellent cookers. If allowed to hang late before gathering they will all three keep in a suitable place until May, and I have repeatedly had them in good condition until that time and in some seasons later still. Northern Greening, or Walmer Court—to quote another name under which it is known—is a very old variety. It is very hardy and has a fine constitution, and the season has to be an exceptionally bad one indeed in which it does not bear. It is also a very heavy cropper, and the fruits are solid and weigh well. The fruits are rather more inclined to be conical than round, and the skin is deep green, with a flush on the sunny side; when ripe the green changes to light yellow. Yorkshire Greening, or Coate's Greening, is also another old kind, but none the less valuable on that account. The fruits are larger than those of the preceding, rounder and flatter in shape; the skin is of a deep green colour, freely streaked with red when well exposed to the sun. It is not quite such a certain keeper as Northern Greening, but it is worthy of a place in any collection where late cooking Apples are required.

New Northern Greening is a seedling from the first-named variety, and it has inherited all the good qualities of its parent, while it is very much larger and handsomer. The fruits are very symmetrical, quite round, and flattened, with a rather deep eye. The colour is light green, flushed more or less with bronzy red, and when ripe the fruits present a very handsome appearance. Like its parent, it is a wonderful cropper, and might almost be termed a "never-fail." This is a splendid market Apple, and one that would

pay to store until after the turn of the year, when it would undoubtedly command a high price.

All three of the varieties enumerated succeed well grown in any form of tree. Northern Greening does not, it is true, make a handsome-shaped bush, the habit of growth being more upright than spreading, but that does not affect its cropping powers. Yorkshire Greening makes a good bush tree and is very pretty grown as a half standard. New Northern Greening succeeds as a pyramid as well as in bush form. As a rule it takes a few years to become established before bearing, but afterwards no fault can be found with its behaviour, for it then crops most abundantly. Handsomer sorts may be had, but for utility these three take front rank and are hard to beat.

A. W.

CHERRIES.

The White Heart Cherry here illustrated is not one of the largest kinds grown, neither is it a recent introduction; nevertheless, it is a good Cherry, noted for its regular cropping in most soils. I have seen this variety in a cool house without heat of any kind so good, that it was difficult to tell it on account of its size and fine quality. This variety as a standard is in many parts of the country often looked upon as one of the most profitable kinds that can be grown. In Kent and the west midland dis-



Cherry White Heart.

tracts it is an especial favourite for orchard culture. The well-known Elton—a large Cherry of splendid quality, and having the same vigorous growth as the White Heart—was one of the kinds raised from this useful variety. It is not so useful as a standard in certain soils. The White Heart is also known under various names, such as West's Heart and Bigarreau White Heart. The tree is a free grower; the flesh is pale yellow, marked with red and very richly flavoured, and in season early in July. The above variety used to be grown largely as a pyramid, but birds did so much damage that this mode of culture does not find favour with modern cultivators. Where protection can be afforded in the shape of wire netting, I do not think a more profitable variety can be grown.

In the northern parts of the country, no matter what the variety be, I should hesitate to advise orchard culture, but, given a wall, I feel sure there need be no fear of poor crops; the value of a wall is the ready means of protecting the fruit. Elton (one of the offspring of the White Heart) was raised ninety years ago by Mr. Knight, and even now it is thought by many to be one of our very best Cherries, as it does well

in heavy soils, is good as a standard and valuable for its early fruiting. Of modern kinds little need be said, as few fruits are more welcome. The new Early Rivers, a large black fruit, is a grand addition, and said to make a good orchard tree. Rivers' Early is a very early Cherry, of splendid quality with very small stone, and a grand cool-house variety. Bigarreau de Schreken, a less known variety, is also of splendid quality and very large. The new Windsor, a large American, promises well. This is a reddish black fruit, tree vigorous and productive. For size, few varieties are superior to the Monstrueuse de Mezel, a very large fruit of the Bigarreau type and very prolific. Bigarreau de Jamboulay is likewise a valuable addition and the earliest large Bigarreau grown. Of older kinds my special favourite is Governor Wood, a splendid kind for wall culture and a free bearer. Others, such as Emperor Francis, Florence, May Duke and the splendid late St. Margaret, are all good. The St. Margaret is specially valuable for its late keeping, in addition to its free growth and fine fruit.

G. WYTHEN.

Cherry Werder's Early Black.—Before the introduction of Early Rivers this was the earliest black Cherry, but it now has to take second place. Grown on an east wall, it is about a week or ten days later than Early Rivers in ripening, and it therefore forms a good succession to it, but as a standard there is quite a difference of fourteen days. I should advise this Cherry being included in every collection, as it is valuable in keeping up the supply and forms a good companion to May Duke, Elton, Downton, and Governor Wood. Its size the fruits are from medium to large, glossy black, with a tender, juicy, and richly flavoured flesh. This is also a good kind for the orchard house. The tree is but a moderate grower, but is exceedingly productive.—A.

Cherry Black Eagle.—A medium-sized black Cherry of excellent quality, the flavour being particularly rich. In appearance it is somewhat similar to Werder's Early Black, but larger, and should be grown wherever highly flavoured Cherries are in request. The tree forms a good bush and has not quite such a spreading habit as most Cherries have when grown in this form. Against a wall it is first-rate, and succeeds Werder's Black. It grows on an east wall the fruit ripens about the second week in July, and in the open garden ten days later. It is also an excellent variety for growing in a Cherry house; the fruits then attain a much larger size when they do outdoors and the flavour is delicious. It is a heart-shaped Cherry, quite black when fully ripe, flesh purplish in colour, very juicy, and rich.—A. W.

Cherry Elton.—A very large heart-shaped Cherry, and one that is known and grown under several different names, but the above is the correct one. In addition to its large size, the fruits are extremely handsome, they being under-ripened, and Bottled all over the country when fully ripe. It is a warm fleshed Cherry, but sweet, juicy, and richly flavoured, a fact birds are not slow to discover if netting is neglected. It is a vigorous grower, and succeeds as an orchard standard, when it crops heavily. As a bush, cordon, or trained against a wall it is equally satisfactory, while it should by no means be omitted for growing under glass. If required early it should be accorded a position on a south wall. On an eastern aspect the fruits ripen about the middle of July. The tree is apt to make strong growth, but partial root-lifting and the mixing of lime rubble or chalk with the soil when replanting will remedy this.—S. E.

Apple Anwell Souring.—This distinct-looking Apple should be grown for a late supply where Wellington is not a success, as it keeps in good condition until the season is well advanced. The fruits exceed Wellington in point of size,

they cannot approach it in appearance, and although the skin is generally of a greenish-yellow colour, it becomes flushed with red on the sunny side. It should always be worked on the Paradise stock, as it is a very free, vigorous grower. Even then it is more suitable for growing as a bush than as a pyramid, the habit of growth being spreading. Standards are prolific and bear the brightest coloured fruits. This Apple should be allowed to hang as long as possible before gathering if it is wanted in perfection. In some seasons I have not gathered until the first week in November; this year it is first, I am afraid, hangs so late. For cooking it is first rate, and the flesh is of a good colour. It is one of the best for making Tomato chutney.—A. W.

Pear Doyenne Boussoch.—I can quite understand why this fine looking Pear is grown so extensively for market in Kentish gardens, and independent of its attractiveness, it grows so very freely grown in bush form, and the fruits are not blown off by strong winds against another by strong winds like those on standards, or even pyramids. At Sazley Park, near Melton Mowbray, I recently saw a beautiful lot of this Pear on dwarf, round headed bushes, many of the fruits being quite up to exhibition standard. The trees have been hard pruned each winter for several years, and they seem to stand the treatment well. My experience is that Doyenne Boussoch does not fruit so freely as desirable on a wall. The soil at Sazley is a strong, but well-drained loam.—C. C. H.

Wood wool for packing.—What a boon this is to gardeners and fruit growers generally who have to pack Grapes, Peaches and Figs for travelling long distances. Moss is good, but unless it is got in good condition and thoroughly dried in the sun it is apt to taint the fruit, while cotton wool, even of the commonest character, soon runs into money. By first lining the box with wood wool, afterwards enveloping each bunch of Grapes in tissue paper, and finally wedging a portion in between each, and placing a good layer on the top, a soft, elastic surface is produced which prevents any oscillation, and the fruit will travel hundreds of miles in safety. The same plan is equally suitable for Peaches and Figs, but the latter should always be packed in an under rather than an over-ripe condition. One of the chief advantages of wood wool is its cheapness.—J. C.

Pear Maréchal de la Cour.—This is a large, handsome Pear of great merit, and one that keeps a considerable time after coming into use. The fruits are large and pyriform in shape, the skin covered more or less with cinnamon-coloured russet and rough to the touch. The flesh is white, quite melting and juicy, while the flavour is rich and sprightly. It is a fine November Pear and one deserving of extended cultivation, for if the locality should be too cold for it to succeed in the open it will pay for growing against a wall having either a south or western aspect. The tree is hardy, vigorous and productive, and as a bush or pyramid on the Quince stock it bears very freely. Cordons are first rate on the same kind of stock, and they generally bear extra large fruits of the finest quality. Gathering is best done at two or three different periods, taking some but those that will come away easily with time, and the remainder thereby considerably prolonged. A notable feature about this Pear is its early flowering, it generally being in advance of other kinds, but in spite of this the blossoms seldom get injured to any great extent. During the past ten years this variety has only failed to bear but twice. On a wall it seldom misses fruiting.—S. E.

Apple Lord Clyde (syn., Golden Noble).—Never before, I should think, has this Apple been seen in greater perfection than it is this season, for not only are the fruits large in size, but the colour is excellent. I saw two standard trees the other day laden with fruit, and the sun shining on it at the time tended to intensify the colour. Garden trees are bearing equally as well as standards, and in their case the colouring is also more pronounced than usual. The hot, dry sum-

mer seems to have suited this variety, and has brought out all its good qualities to a degree beyond all that I have experienced in former seasons. Golden Noble is a first-rate Apple, as those already possessing it know. As planting time will soon be here, a note as to its value, both as a market sort and as a first-rate variety for home consumption, prompted the penning of these lines in its praise to induce intending planters to include it in their list when making a selection. I would recommend its being planted in quantity for market either as standards or bush trees, the latter, of course, on Paradise stock, as they are very fertile. The fruits are large, firm and heavy, and keep well until the end of March, when they are good for dessert. It is also a good kind for sauce-making, the flesh being white and melting and the flavour pleasantly acid.—A. W.

at p. 161, the plants are full grown at from four to five months, and sometimes, in the case of strong suckers, in flower at the last named date, and long before nine months the fruits are fully developed. Apart from this fact, however, it is difficult to realise how any plant of such naturally rapid growth under great tropical heat can by any methods which restrict its fullest development of leaf and stem fruit well. All the same, it is interesting to learn that the Musas can be fruited on what may be termed a comparatively cool system, and when used for decoration also. Indeed, for this latter purpose alone Musas are well worth growing.—E. J.

I am much interested in reading the remarks which have appeared lately in *THE GARDEN* regarding the culture of the Banana. I believe that the causes of the non-fruitless of the Cavendishi are over-richness of the soil and too much coddling. The Banana does not require rich surface dressings as one is led to suppose. Heat and moisture if does need, but good sound fruit can be obtained with much less heat than is generally supposed. My plants have been in the same tubs for about five years. The tubs are paraffin casks cut in half and the soil used is loam and horse droppings. I thin out the suckers to one, this being left to bear the following year. During the growing time liquid manure is applied once a week. The heat is that of an ordinary stove, oftentimes in the winter falling to 55° at night. Last week I cut a bunch weighing about 45 lbs., that being the general weight. The fruits are well finished. The plants are syringed twice a day.—R. L. CANNING, *Marchwili Hall, Wrexham.*

Pear Althorpe Crassane.—is a well-known and highly esteemed variety raised by Thomas Andrew Knight. As a rule the fruits are but medium sized, roundish ovate in shape, and regular in outline. The skin is pale green, and it acquires a bronzy flush on the sunny side, the whole surface being sprinkled with minute white dots. It is a fine flavoured Pear, the flesh being white, buttery, juicy, and slightly perfumed. A gain in size without the slightest loss of flavour may be had by double-grafting. B. Clairgeau or some other strong growing kind being a suitable stock for it. It is a hardy, vigorous growing variety, and succeeds well grown in any form of tree. Like Knight's Monarch, Althorpe Crassane has a habit, in some seasons, of casting some of its fruit prematurely, and the trees should then be either netted or looked over frequently, when all fruits that yield to a gentle pull should be removed. When the Pear crop is a scanty one, this variety should be put in a perfectly cool room to prolong its season of use. I have had it in good condition until after Christmas when so stored. When placed in the Pear room proper the fruit is ready for use during the latter end of November and the first half of December.—S. E.

A profitable fruit house.—One of the most profitable span-roofed fruit houses I have ever met with is at Langford Hall, near Newark. It is 42 feet long, 22¹/₂ feet wide, the distance from the ground to the ridge being 13 feet. One side is planted with Peach trees trained to a curvilinear trellis, the other side with dessert Pums and Gages, while in the centre of the house are placed a Black Hamburg and Foster's Seedling Vine, the stems being taken up perpendicularly to within 2 feet of the point where the two roofs meet, both being then taken horizontally in opposite directions towards the ends of the house. Fine crops of either Grapes, Peaches or Plums need not be wished for, and during the winter months it accommodates a great number of Chrysanthemums, the light character of the structure preventing the plants from becoming drawn and weakly and the blooms flimsy and undersized, as is often the case in dark lean-to vineries and Peach houses. The Plums are represented by Transparent Gage, Jefferson, Coe's Golden Drop, Denniston's Superb and Kirke's, and Peaches by Early York, Noblesse and Stirling Castle, the Noblesse bearing almost as freely as the others.

When the border was made the ordinary soil of the garden was taken out and 9 inches of drainage laid in the bottom. About a dozen cartloads of the top of no by any means a rich pasture soil was then brought and mixed with the ordinary soil, a few crushed bones being added. So far as I know, the roots of the Vines, Plums and Peaches have access to the whole of the border, no divisional walls having been built.—C. C. H.

ROSE GARDEN.

ROSE WILLIAM ALLEN RICHARDSON.

IT is surprising to what perfection a plant will attain, be it a Rose or any other subject, provided a start is made with a good sound basis in the form of a healthy vigorous plant, good soil, and an intelligent method of cultivation. The above grand Rose raised from *Rêve d'Or* by Ducher in 1878, and which has attained to such a marvellous popularity, demands a rich deep soil and perfect drainage. My experience has been that the most perfect flowers of this variety and of the most vivid orange hue have been obtained from plants grown in standard form. If, however, it is desired as a climber upon a wall or as a shrub, then plants budded upon the seedling Briar will certainly give the most satisfaction. I am aware there is considerable disappointment experienced in the early summer months on account of many plants of this Rose producing imperfectly formed and very pale, almost white, blossoms, and I can only attribute this to our somewhat uncongenial climate. That the weather affects the colouring of flowers appears very evident, for in autumn we have many Roses of a very high colour compared to the earlier blossoms of the same variety. Although I have seen many of these pale flowers upon William Allen Richardson outdoors, I never remember to have seen one upon plants grown under glass. I am firmly convinced that if a west wall were selected for this Rose, so that the plants were sheltered from the morning and mid-day sun, fewer of these badly coloured flowers would be seen. It is also a fact that manure in the form of bone-meal is a splendid aid in producing those rich orange-coloured flowers so much admired in this Rose, and to anyone who has had trouble in respect to this bad colouring I would recommend that, provided the plants are healthy, a good supply of stable drainings be applied this autumn and during the winter months, supplemented in the spring by a dressing of bone-meal. Where space is a consideration under glass, there is no better method of growing this Rose than as a standard. A plant should be selected with four or five long fairly pliable shoots, and instead of pruning these shoots at pruning time, tie a piece of raffia at the end of each shoot and gradually bring them down nearly to the stem, which will form what is known as an umbrella-shaped tree. Plants thus treated will be covered with an abundance of flowers even if somewhat unnaturally produced. I am certain this variety, in common with many others of a climbing nature, is over-pruned. Indeed, very few of the growths should be cut away. Mistakes are often made with these climbing

Roses in pruning them hard the same season as planted. I prefer leaving most of the growth intact the first season, which is only reasonable, for surely thus treated a plant is the more able to produce roots than if denuded of its growth. When the plant is thoroughly established, a shoot or two may be removed if at all crowded, and, of course, the small lateral growths should be cut back to the second or third eye; the result will be in time a grand specimen somewhat resembling that in the illustration. The only drawback to this comparatively let-alone system in the rigour of our winters, especially upon Tea and Noisette Roses grown in exposed situations; therefore, unless favoured with a Devonshire climate, a sheltered spot should always be afforded this lovely Rose, and then with care during the

together, I am quite convinced that it is distinct, and that it is a great acquisition.—A.

Rose La France and its progeny.—For the honour of that unapproachable queen of Roses *La France*, I protest against "Philomel's" description (p. 245) of Augustine Guinoiseau as "an exact counterpart of its parent save in colour." Neither in growth, fulness of flower, nor in fragrance is it anything but the poorest and flimsiest ghost of *La France*. It is commonly, and to my mind unjustifiably, catalogued by dealers as "an almost white *La France*." It is rather pretty in the bud, but when open its thinness and inferiority are manifest, and, seeing how many better Roses we possess, I do not regard it worth its ground. Will someone give me his experience of the new "climbing *La France*?" A truly climbing *La France* would be a very great gain for our house and garden walls, and in this hope I in-



Rose W. A. Richardson. From a photograph sent by Miss Nicholson, Ashleigh, Isle of Wight.

winter, by well protecting the plant with evergreen boughs, we should doubtless be able to see more plants similar to the one figured.

PHILONEL.

Rose Bridesmaid.—This appears to be a great favourite with the American florists, and I think when it becomes known it will be equally popular here. I have only lately had an opportunity of seeing it flowering side by side with the *Catherine Mermet*, from which, as far as it is reported, it has the same vigorous habit and well-formed flowers, the colour being a more decided pink. In both varieties the colour varies a little, and I was inclined to doubt the distinctness of *Bridesmaid*, but after seeing a number of plants of each flowering

vested 5s. last autumn in a plant. The plant sent was a good one, and had borne leaves and flowers in abundance, but in climbing it has shown no sign whatever, nor is it, so far, to be distinguished at all in length of shoot from a very stock of ordinary *La France*.—G. H. ENGLEHEART.

Rose Crimson Rambler.—To venture to depreciate a new plant of any kind which is advertised everywhere, bought everywhere and praised everywhere is no doubt to put one's self into a despised minority of one. Nevertheless I am moved to say that the popularity of *Crimson Rambler* amazishes me. That it produces a great mass of crimson bloom is undeniable, but with this its merit, to my mind, ends. The colour fades rapidly to an ugly dull magenta, its foliage

is extremely coarse in colour and texture, its pronounced "green-door" colour assorting very badly with the red flowers, and on a wall it is devoured and reduced to a most sorry appearance by red spider. In short, it is the very opposite of what ever is truly choice or refined in Roses, and it is pain and grief to me to see the many gardens in which wretched things have been cleared away to make room for stunting copies of this variation. I must plead guilty to having a plant or two introduced into my collection, in my own garden, but sentence of exile has been passed upon them—exile to the rough shrubbery, their proper home.—G. H. ENGLEHEART.

SOCIETIES AND EXHIBITIONS.

FRUIT SHOW AT THE CRYSTAL PALACE.

OCTOBER 1, 2, 3.

THIS exhibition was held one week later than last year. For Apples and Pears this is quite immaterial, but for other fruits, as Peaches, Nectarines and Plums, it is not so well. It is not of course always possible to select one's own dates for these and other important gatherings; were it so, we are inclined to the opinion that at least one week, if not two, earlier would be all points preferable. Those fruits above named should, if possible, be more important features than they now are. The wet weather has this autumn, beyond any doubt, acted prejudicially on tender fruits.

Taking a general survey of the entire exhibition, it is safe to say that its general excellence is fully maintained this year; in fact, we are almost disposed to pronounce it one of the very best yet held, whilst, on the other hand, the magnetic influence it exerts in drawing together horticulturists of all ranks and professions, notably those well known as fruit growers, is ever on the increase. At no previous exhibition do we remember to have seen so many growers present. The increased interest evinced in these what we now hope will be annual gatherings is quite apparent. Thus, the Royal Horticultural Society is rendering invaluable service to fruit producers and to the community at large. Such gatherings cannot but be productive of good results, in that they popularise the culture of fruit and at the same time afford practical illustration and instruction of what it is best to cultivate from points of variety and utility. It is earnestly to be hoped that the council will persevere in this good work, and that there will not be any lack of monetary assistance afforded them. When one glances down the lists of promised assistance it is a matter of surprise that it is so small. Surely all of those at least who are prize-takers will consider their indebtedness to the society in this respect. These exhibitions, too, should be the means of increasing the list of Fellows, and, by so doing, strengthen the society for future good and practical work.

Upon inspecting the exhibition recently held, one fact is at once apparent—the excellent finish of both Apples and Pears, the colour of the former throughout the show being of the very best, whilst in the Pears the evidences of thoroughly matured fruits are quite manifest. The exhibits of outdoor Peaches and Nectarines, as well as of Plums, are not so many as one could wish; a few good samples are, however, to be noted, possibly where wall copings (glass or otherwise) are used. Nutts of all kinds are excellent in quality. Grapes taken as a whole, maintain the usual excellency of those shown. Of these it is safe to say that Muscat of Alexandria was never shown better, nor has the competition been so keen. In this respect it reminds one of the large fruit show at Manchester in the early eighties, and of another at the Alexandra Palace of the same period. Black Hamburgs were in strong force this year (last year this good Grape was lamentably deficient) and of excellent quality. The next most prominent Grapes, no doubt, was Alicante, which also was in strong force, and so was Gros Maroc, whilst of Gros Colman there were some perfectly finished samples.

One would like to see more of such high-class Grapes, as Mrs. Pince's Black Muscat, Muscat of Hamburg, Mrs. Pearson and Dr. Hogg.

The collections of fruit in variety in the two classes provided for them showed no improvement in quality on last year. Hence the lateness of the show in regard to several dishes, notably on Peaches, Nectarines, Plums and Mairons. Pinas, on the other hand, were finer than usual. The judging was by some considered to be erratic in the two last awards of the larger class; the absence of Muscats and the substitution of Foster's Seedling had no doubt its weight with the judges, as well as the superiority of the black Grapes, and that in spite of the finer Peaches (a grand dish) and the two very fine Pinas in the third prize collection. One of the Melons, too, in the second prize lot was in process of decay, but possibly in judging it was not observed. In the competing classes open to the trade only, the pre-eminence of the Kentish-grown fruit was very manifest; better examples of superb finish and size could not be desired. In the Pear classes the competition was the keenest, wherein the western grower showed up bravely. In the single dish classes of both Pears and Apples, the most popular kinds were well shown, it being thus easy to note which kinds met with most approval.

Throughout the show the Kentish growers again occupied most of the premier positions in both the Pear and Apple classes, notwithstanding the efforts of many others, for they were discomfited by those from South, from Sussex, and from Surrey, as well as from the western counties. The best Grapes came from Middlesex, from Surrey, and from Bath, most of the first prizes being taken by three competitors from these counties. Throughout the show the competition was almost invariably keen, the most noticeable exceptions being in a few of the single dish classes where prizes were offered for such as Bourré Dumont and a few other Pears.

The non-competing exhibits of fruits were most extensive, covering a wide range of fruit culture and occupying a great amount of space. Of novelties, Physalis Franchetti made a brilliant display in Messrs. J. Veitch and Sons' stand. Here also was to be seen a new and remarkably fine looking Grape, of which more will soon no doubt be heard. Particular note should be made of a highly creditable collection of Apples and Pears from South Wales, brilliant in the extreme as regards colour and of huge size; these, had they been staged in the competing classes, would have told a tale. The exhibitor was Major W. Blythway, Llanelli.

The arrangements of the show were excellent, all being done in good taste, most of the classes running consecutively, with no overcrowding to the disarrangement of exhibits.

COLLECTIONS OF FRUIT.

There were three entries in this class for twelve dishes of ripe fruit. The first prize and Williams' Memorial medal were awarded to Earl of Harrington, Elvaston Castle, Derby (gardener, Mr. Goodacre), who had two strong dishes of Grapes; Muscat of Alexandria, finely coloured and shaped bunches; Black Alicante, well coloured and with large berries; Black Jamaica Pine-apple, now very seldom seen, but one of the most delicious, as well as handsome in appearance; the show being a good example; Smooth Cayenne Pineapple; Countess and Hero of Lockinge Melons of medium size; a fine clear dish of Pitmaston Duchess Pears, and another of Bourré Hardy; Cox's Orange, Pippin and Washington Apples, both excellent samples; Monarch Plum, and Golden Eagle Peaches. The second prize was awarded to Lady Henry Somerset, Eastnor Castle, Ledbury (gardener, Mr. Harris). The Grapes here were excellent, the Muscata being better than in the premier collection, the bunches being accompanied by Madresfield Court, good alike in all points, both in bunch and in colour; Pitmaston Duchess Pears, The Nectarine and Lady Palmerston Peaches, Morello Cherries, Cox's Golden Drop Plums, and Smooth Cayenne Pine

were all good points, but the Figs were weak, also the Royal Pears, Hettan Hall, Cuiseborough (gardener, Mr. McIndoe) was placed third, he having two splendid Pines, Charlotte Rothschild and Smooth Cayenne, medium Foster's Seedling and good Gros Maroc Grapes, but in both dishes of which he was easily beaten; Doyenne du Comte Pear was first class, and so was Triomphe de Vienne; Washington Apple was fine in colour, and the dish of Exquisite Peach superb.

In the class for six kinds only, the first prize easily fell to Mr. W. K. d'Arcy, Stanmore Hall (gardener, Mr. Tidy). The Grapes, Alicantes and Muscats, here were strong points, in every way excellent, his other dishes being good Late Admirable Peaches, capital Louise Bonne Pears and Ribston Pippin Apples, and a dish of Passiflora edulis. The second prize in this class went to Mrs. Wingford, Ampthill House, Beds (gardener, Mr. Empson), in which collection the Grapes were the best dishes.

COLLECTIONS OF GRAPES.

For six varieties, black and white to be represented, Mr. W. Bayley, Tewkesbury Lodge, Forest Hill (gardener, Mr. W. Taylor), was first in a keen competition, he having to win against well-known exhibitors. The varieties staged were Muscats of good colour, medium bunches; Madresfield Court, rather weak in colour, but good in bunch and berry; Gros Maroc, large in bunch and colour, not quite compact; Alicante and Gros Colman, both finely coloured and Trubbiano, large in bunch. Messrs. de Rothschild, Gunnersbury Park, Acton (gardener, Mr. Reynolds), pressed very closely for the premier place in this.

The best examples here were well-finished Muscats, better Gros Maroc, fine Alicante, good Madresfield and Alnwick Seedling; in all a very even exhibit. Mr. Goodacre in this class had to be content with third place, Mrs. Pearson being an excellent dish. For three kinds of Grapes, Alderman Chaffin, Bath (gardener, Mr. W. Taylor), was first in a close competition. There were Madresfield Court, large bunches, scarcely coloured; Muscats, grand bunches with huge berries finely coloured, and Gros Maroc of large size, and with a deep bloom upon the berries. Mr. Harris showed well in this class, his choice being Black Hamburg, Muscats, and Gros Colman, the last being remarkably good. For three bunches of Black Hamburg, Mr. Taylor, Forest Hill, secured the first prize with shapely bunches of good size, but deficient in colour to some extent, the second award being made to Mr. F. W. Fleming, Chilworth Manor, Hants (gardener, Mr. Mitchell), whose exhibit included two bunches very much superior to those in first prize lot, one being smaller, but in all three with the colour and size or berry were better. For Madresfield Court, Mr. Taylor, Bath, was first beyond any question with his good bunches and fine berries, the colour only moderate; Mr. Taylor, Forest Hill, came in second with smaller examples, but with the colour improved. For Gros Maroc or Gros Colman, Mr. Taylor, Bath, was first with three huge bunches of the former with immense berries, which were covered with dense bloom. Mr. Goodacre was second here with the latter kind; these, too, were perfectly finished. For Black Alicante Mr. Tidy was first with compact, shapely bunches and large berries of the finest colour. Mr. Taylor, Bath, who came very close for second, had larger bunches well finished in every way, he apparently having lost through staging bunches not so shapely, but larger. For Lady Downe's, Mr. Tidy won again, and that with comparative ease, the bunches, berries, and finish being all that one could desire; Mr. Kemp, Coolburst, Horsham, in whose bunches the colour was rather deficient, but the bunches and berries fine, being second. For any other black Grape Mr. Tidy won, staging Alnwick Seedling, the bunches being very fine, the berries large and with a dense bloom. Mr. Taylor, Forest Hill, was second in this class with very compact bunches of Barberossa well finished. Mr. Mitchell was third

in this class with three as fine bunches of Mrs. Pince as anyone could desire, well finished, too, for the variety, with quality all in its favour as contrasted with the other awards. For Muscat of Alexandria, Mr. Tidy repeated his previous successes by again taking the first prize in a severe competition, the bunches of typical shape, large, and fine in berry. Sir G. Russell, Swallowfield Park, Reading (gardener, Mr. Cole), was here placed second, his bunches a trifle heavier perhaps and longer. Here again the finish was excellent. Mr. F. A. Bevan, Trent Park, Barnet (gardener, Mr. Lee), followed close for third prize with possibly the best coloured bunches of bunches; these too were weighty, the outer ones being heavily shouldered. These three exhibits were so close as regards finish and general excellence, that if the awards had been reversed, no fault could scarcely have been found.

For any other white Grapes Mr. Taylor, Bath, was first with three splendid examples of Cannon Hall Muscat, the berries of which were huge, the bunches well proportioned and evenly set, whilst the colour was perfect. Mr. Reynolds followed with Foster's Seedling, well-ripened examples of good size. A class should be provided for Cannon Hall Muscat, or it should be bracketed with Muscat of Alexandria, otherwise it is hopeless for any other kind to compete against it. In this same class were large clusters of Duke of Buccleuch and others of Mrs. Pearson. Only one dish of Figs was shown: this came from Mr. W. Erie, Liphook, Hants (gardener, Mr. Edwards). For a collection of hardy fruit grown entirely in the open and not to exceed fifty dishes, the gold medal of the Fruticete Company was offered as a first prize, but it was rightly withheld, as the two exhibits were not up to the highest possible standard; both included fruits of good average quality, however. For a collection of hardy fruit not exceeding thirty-six dishes grown partly or entirely under glass to illustrate orchard house culture, Mr. McIndoe was deservedly awarded the first prize, with fruit typical of such conditions, the clear skin and perfect finish being very apparent. The best examples were Buckland Sweetwater and Gros Morel Grapes, both good; a fine dish of Late Duke Cherries and another of Bellegarde Peaches, with one also of Exquisite of Pears, Durondeau, Doyenne du Comice, Bourré Superfin, Bourré Balter Pére, and Triomph de Vienne were all of first-class quality; of Apples there were Grand Duke Constantine, which is only a synonym for Emperor Alexander, Bistechine Red, and a handsome dish of Calville Rouge Précoce; of Plums the best were Coe's Orange Drop and Magoun Bonum (yellow), and of Figs, Negro Largo. The second prize was awarded to Mr. J. W. Melles, Chingford, Essex (gardener, Mr. Nicholson), for a very remarkable collection of fruit grown on pot trees which are protected overhead whilst the front is left entirely open; the best examples were of Pears, Pitmaston Duchesse and Doyenne du Comice, and of Apples, Mère de Ménage, Peasgood's Nonsuch, Alfriston and Gloria Mundt.

DIVISION II.—NURSERYMEN ONLY.

This class for collections of indoor and open-air fruit, as may be expected, was not strongly contested, as few can stage in the quantities required. On the other hand, here was seen some of the most interesting fruit in the whole exhibition, as in these mixed classes exhibitors had more scope for variety. Here we noticed some very fine new Pears and Apples, and the staging was out of the usual form, causing a pleasant break in the long tables of fruit, plants in a few cases being freely used. The first class in this division, unfortunately, was not filled, that of fruit trees in pots. Why, we know not. For a collection of hardy fruits grown partly or entirely under glass there was only one exhibitor, viz., Messrs. G. Bunyard and Co. The centre of the exhibit was a fine pyramid Apple tree flanked on each side with Figs in pots, pot Vines in variety, and fine-foliated plants, with berried Pyracantha. Large baskets of fruit were distributed over the tables, with groups of dishes. The following Apples and

Pears were most noticeable for colour and quality: Warner's King, grown under glass, was like wax, but not equal in size to some open-air specimens. King of Tompkins County was very fine, also Gascoigne's Scarlet. Striped Beauhn and The Queen were remarkable for colour: the same must be said of Calville Rouge, Precoce, Mère de Ménage, Lady Hemmick and Peasgood's Nonsuch. Mrs. Bartron and Bramley's Seedling were noted for size, and the newer Okera was excellent. In the dessert fruits, such well-known kinds as Cox's Orange, Cornish Gilliflower, Rosemary Russet, Mother, Melon, Wealthy, Pear's Pippin, and several of the Calville type grown under glass were very fine. The Peaches staged were not numerous. Nectarines were not represented, and Figs were Negro Largo and Bourjassotte Crise. Pears were staged in quantity. Bourré Dumont, Bourré Fouquenay, Conference, Directeur Alphonse, Président d'Osmonville, Doyenne du Comice, Marie Bénard, Marie Louise, Jean Van Geert, Clairgeau, Pitmaston, Durondeau, and Durondeau were all very good both in size and finish. For a collection of not more than 100 dishes of dessert varieties the same exhibitor was an easy first. There was no other competitor, and the fruit was most tastefully arranged: a square pyramid of Apples formed the centre. There were twenty-five varieties of Pears, some remarkable for size. Apples were equally numerous, with Nuts in variety and Late Orleans and Wyedale Plums, Damsons, Quinces and other fruits. This was a grand exhibit, well worthy of the Fruticete's gold medal. In the smaller class for fifty distinct varieties there was more competition. Mr. H. Berwick, Sidmouth Nurseries, was first, his fruit remarkable for their splendid colour, and though they did not equal in size the Kent fruits, some of the dessert varieties were superior. Here was the best lot of Cornish Gilliflower in the whole show, Cox's Orange, Ribston, Tyler's Kernel, and Blenheim Orange, also being very fine. The well-known Bismarck, Gascoigne's Scarlet, Mère de Ménage, and Emperor Alexander were also excellent. The Pears, though good, were not extra in size, the Pitmaston, Marie Louise, Duchesse d'Angoulême, and Bacon's Incomparable being noticeable, with very good stowing varieties and such fruits as Almonds, Damsons, Plums in variety, with grand Medlars (Dutch) and Princess of Wales Peaches. Mr. A. Wyatt, Hatton, Hounslow, was second with much smaller fruit, less variety. For the next class for Pears, not more than fifty varieties, a large space was allowed, fine-foliated plants being also allowed. Messrs. Bunyard were an easy first, staging the best fifty distinct varieties we have seen. Here was an absence of what one may term inferior kinds, of which there are far too many in commerce. Marguerite Marillat and Fondante de Thirriot were excellent. These new Pears are of good quality and valuable additions. Princess and Conference were most noticeable for their perfect shape. Bourré du Buisson, a Pear rarely seen, a delicious fruit in January; Fertility Baronne de Mello, a small, but excellent early autumn Pear; Baron Leroy, a large, new Pear; Bourré Mortillet, Directeur Hardy, De Toubert, Duchesse de Bordeaux, Le Lectier, a splendid fruit; Triomph de Vienne, with other well-known kinds, were well shown. Mr. H. Berwick, Sidmouth, was second with smaller fruits, but very well coloured. Most of the well-known kinds were staged. Bourré Hardy and B. Clairgeau were very fine. For the same number of Apples, Messrs. Bunyard were first. This collection had some of the choicest fruits in the show. Mr. J. Basham, Fair Oak Gardens, Newport, Mon., was second. Here were some grandly coloured fruits. The next class for fruit-bearing branches, in which there was no competition, we do not think is wanted, as the cut foliage soon withers.

DIVISION III.—GARDENERS AND AMATEURS ONLY.

In this division was seen some of the best fruit in the show, and we are pleased to note there was no falling off in the competitors. We noticed that size in some of the collections staged was their

chief merit. More attention should be paid to quality and less to size. For twenty-four dishes (sixteen cooking and eight dessert), Mr. G. Woodward, Barham Court Gardens, was first, there being four lots staged. His dishes of Peasgood's Nonsuch, Bramley's and Bismarck were remarkable for size. Belle Dubois, Emperor Alexander, Mère de Ménage, The Queen, Golden Noble, Beauty of Kent, Waltham Abbey, Stone's, Alfriston, Warner's King, Lord Derby and Lane's Prince Albert were all good and of fine colour, his front dishes of dessert kinds being Reinette du Canada, Brownlee's Russet, Ribston, Cox's Orange, Baumann's Red Reinette, Washington Melon and Barwick Beauty. Mr. W. King (gardener to Mr. Coleman, Gatton Park, Reigate) was second, Mr. J. Nowell, Maidens Court Gardens, Abergavenny, being third. For twelve dishes (eight cooking and four dessert), there was little competition, but the quality was excellent. Mr. W. G. Pragnell, Sherborne Castle Garden, was first, with excellent fruits of The Queen, Lord Derby, Peasgood's Nonsuch, Warner's King, Gascoigne's Scarlet, Anna Elizabeth, Bramley's Seedling, and Blenheim Orange. American Mother, Ribston and Cox's Orange Pippins with King Pippin were the dessert varieties. Mr. T. W. Startup, West Earleigh, Kent, was a close second. His dishes of cooking fruits were very large. For nine dishes (six cooking and three dessert), there were seven competitors—scarcely a weak lot among them. Mr. W. Sloane was first with even fruits, all good, Sandringham, Peasgood's Nonsuch and Emperor Alexander being large. Mr. Turton, Maiden Erlegh, Reading, was a very close second, he having fine Mère de Ménage, Blenheim Orange, and Striped Beauhn, with a fine dish of Adams' Pearmain in his dessert fruit. Mr. J. Hill, gardener to Mr. C. R. Adeane, Babraham Hall, Cambridge, was third. The class for six dishes of cooking Apples, as may be expected, brought forth a notable array of fruit as far as size was concerned. There were five competitors, Mr. G. Woodward being a good first, having remarkable examples of Belle Dubois, Peasgood's Nonsuch, Stone's, Warner's King, Lord Derby, and Alexander, the whole being notable for perfect finish and weight. Mr. T. W. Startup was second, and Mr. Lewis, gardener to Mr. Cleverdon, Staplehurst, third. The three-class for cooking Apples brought out eleven competitors, Mr. J. Bowyer, gardener to Mr. H. E. Balfour, Headstone, was first with grand Lang's Prince Albert, Emperor Alexander, and Peasgood's Nonsuch; Mr. G. Goldsmith, Horsham, being second, and Mr. Sage third. Probably the best table of fruits in the whole building as regards quality was the class for six dishes of dessert fruits; the competition was strong and excellent dishes were staged. We think more prizes should be allotted to the dessert Apples in collections, as the fact of eleven lots being staged shows how popular this, the largest class for dessert Apples alone, was. Mr. G. Woodward was first with grandly coloured examples of Cox's Orange, Washington, Baumann's Red Reinette, Barnack Beauty, Ribston Pippin, and Calville Precoce. Mr. W. King had six excellent dishes very little inferior to the premier lot, his fruits of American Mother, Jefferson, and Ribston Pippin being fine, Mr. Goldsmith being third, he having an excellent dish of Cornish Gilliflower. For three dishes of dessert, Mr. Edwards, gardener to Mr. G. B. Field, Sevenoaks, was first out of eleven competitors.

The Pears were even better than Apples and really excellent in most cases. For the best twenty-four dishes Messrs. Bunyard offered liberal prizes. Mr. G. Woodward secured the premier award with a superb collection, Durondeau, Louise Bonne of Jersey, Pitmaston Duchess (a trifle coarse), Bourré Balter, Marie Benoist, Bourré Diel, Soldat Labouré, Princes, Fondante Thirriot, Passe Crasane, Josephine du Malines, Doyenne d'Aleçon, Vineuse, and Winter Nellis being the best. Col. Brymer (gardener, Mr. Powell), Islington House, Dorchester, was second,

his fruit having less colour. The class for two brought out five lots, mostly good, Mr. W. G. Pragnell taking the lead with very fine fruits. Mr. Offer, gardener to Mr. Warren, Handcross Park, Crawley, was second with a smaller lot of fruits. For nine dishes some fine fruits were staged. Here Mr. W. Jones, gardener to Mr. J. R. Brougham, Carshalton, was first, he having very fine Duchesse d'Angoulême, Pitmeadow Duchess, Beurré Bachelier, B. Superfin, Easter Beurre, Urbaniste, and Maréchal de la Cour. Mr. Fennell, Tonbridge, was second with a large specimen, and Mr. G. Co. Wythe third, to Earl Devon House, Dartford, third, with very good dishes, small, but of excellent quality. For six dishes, Mr. Slograve secured premier place, having very fine Fondante de Cuerne, Duchesse d'Angoulême, Doyenne du Comice, Beurré Diel, and Louise Bonne of Jersey. Mr. G. W. Andrews, gardener to Hon. W. Lowther, Campsey Asbe, Wickham Market, being second; Mr. Bannister third. In this class nine lots were staged. For three dishes there was a poor competition, Mr. Harris, gardener to Mr. A. O. Smith, East Grinstead, being first, with fine Gen. Todtloben, Beurré Diel, and Pitmeadow Duchess; second, Mr. Startup. In the class for stewing Pears there was a spirited competition. Mr. Woodward was first in the three dishes, having very large red medallions St. Germain, Calvados, and le Jeune. Mr. Goldsmith second, with Bellisimo d'Hiver in place of Grosses Calabashes; Mr. Cotterell was third, but we think there were finer fruits in the dishes which received no awards. For a single dish, Mr. Ross, Walford Park, Newbury, was first with huge Urvilles St. Germain, Mr. G. H. Stock, gardener to Mr. G. H. Roames, Peterborough, second with the same variety.

The classes for stone fruits did not fill, doubtless owing to the early season, and none staged could not be noted as first-class fruits, some being poor and flavourless. For three dishes of Peaches there were only three competitors, Mr. G. Woodward taking the premier award with good fruits of Sea Eagle, Nectarine and Princess of Wales; Mr. A. Maxim, gardener to Col. H. Walpole, Heckfield, Hants, being second. In the single dish class, seven contested, the first prize going to Mr. Wallis, gardener to Mr. R. Sneyd, Keels Hall, Staffs, with a variety of Continental origin named the Thomas Peach ; second, Mr. Gibson, gardener to Mr. T. F. E. Brayton Atkins, Sevenoaks. Nectarines were poorly shown, no fruit being staged in the three-dish class, and only two competed in the single dish class, Mr. McIndoe staging Byron, and Mr. Reynolds, Gunnersbury Park, Victoria. The same remarks apply to Plums. For four dishes of dessert there were only two competitors, Mr. McIndoe having Grand Duke, Coe's Golden Drop, Ryebrook Green Gage, and Jefferson ; Mr. Empson, gardener to Mrs. Wingfield, Amthill, being second. For a single dish of dessert, five staged, Mr. Harris, Eastnor, being first with Coe's Golden Drop ; Mr. Prinsep second with the same variety. For cooking Plums (four varieties), Mr. McIndoe was first with Pond's Seeling, Damsel de Septembre, Magna Bonum, and Dymond ; Mr. Empson second. For a single dish, Mr. Prinsep had very good Monarch, Mr. Fennell being second. For Gage Plums, Mr. J. Hill, Bradsham, was first with Reine Claude de Bavay ; Mr. Gibson, gardener to Prince Hatfield, Chipping Norton, second with Brahy's Green Gage. There was only one exhibition of Damsons ; these were rather small, from Mr. Empson, who staged Frans Damson, King of Denmark and White Bullock. Cherries were not numerous, Mr. F. Harris being first with Morello's ; Mr. Herrin second with the same variety. Nuts were staged by three exhibitors, Mr. G. Chambers, Mereworth, Kent, being first with good Walnuts, sweet Chestnuts, Champion Filbert, Coxford and Kentish Cobs and Filberts ; second, Mr. Turton. For a dish of Quinces, fourteen competed, Mr. Prinsep being first, and Mr. Mitchell, Romsey, second. For the Veitch prizes for flavour, eighteen competed for Apples, Mr. Prinsep being first with Cox's Orange Pippin ; second, Mr. Startup with Ribston. There

were fourteen dishes of Pears; Thompson's secured the premier award for Mr. Cotterell, the second place going to Beurré Hardy.

DIVISION IV.—SINGLE DISHES GROWN IN THE
OPEN AIR.

Taken as a whole, the Apples exhibited in single dishes were not so fine as last year, and few individual dishes came up to the best of those shown in 1895 either in size or in colour. This however, is scarcely to be wondered at, considering the difference in the weather of the two Septembers. The larger classes were not so well filled and we missed the very fine Ribston, which were last year so wonderfully good. The Blenheim and Cox's Orange classes were, however, well filled, and the few dishes shown were of a splendid size, but few dishes showed any indication of spot. In cutting down the number of classes we are led to wonder why special classes for Allen's Everlasting, of which there was only one entry, which had secured a second prize, Williams' Favourite (one exhibit), Seaton House (one exhibit, second prize awarded), Spencer's Favourite (one exhibit, certainly very good, but much resembling Golden Noble), are included, while such good and better-known varieties as the old Golden Pippin, Cockle Pippin, Golden Russet, Reinette du Canada are left to fight their battle in the classes for "any other variety," in which they stand no chance. We would suggest a rearrangement here in which some of these good and well-tried varieties are not forgotten.

APPLES.

Mr. McKenzie (gardener to Mr. F. S. W. Cornwallis, Linton Park, Maidstone) was first for Baumann's Red Winter Reinette, but was closely run by Mr. Woodward, gardener to Mr. Roger Leigh, Maidstone. The class for Brownie's Russet brought out four competitors, among whom Mr. Woodward took the lead, all the dishes exhibited being very even. Of Court Pendu Plat ten dishes were put up. Mr. C. Ross (gardener to Captain Cartaire, Newbury) was first with some good fruits. Cox's Orange Pippin brought out the large number of thirty-three dishes, the winning dish—shown by Mr. W. King (gardener to Mr. J. Colman, Reigate)—being a grand lot, very even and good in colour. The second prize dish came from Mr. Woodward, whose fruits were slightly larger than those which beat them, but not quite so well coloured. Mr. W. Mitchell (gardener to Mr. J. W. Fleming, Romsey, Hants) came third, also with a grand dish, which was marred by having one spotted fruit, but for which the exhibitor might have taken a higher position. Altogether this was a good class, but some dishes contained undersized fruits. Among the ten dishes of Fearn's Pippin there was nothing very notable. The first prize dish, shown by Mr. F. S. W. Cornwallis, contained the best coloured fruits, and these were also more russety than those of any other dish shown. Of King of the Pippins a very mixed lot was shown; the dish exhibited by Mr. W. G. Pragnell (gardener to Mr. J. K. Wing-field-Dibby, Shereborne) was, however, a grand lot; the second and third prizes might well have been reversed. Some few of the twenty-one lots shown might well have been left at home. For Mabbot's Pearmain four dishes were shown, and Mr. McKenzie here came easily first with a good dish.

The class for Martinington Pearmain brought out six exhibits, the first three dishes being very even. Mr. T. Turton, Reading, secured first place. An even and good lot of Marzil was put up on seven out of the eight dishes, the eighth being a dish of Cockle Pippin. Mr. Goldsmith, gardener to Sir E. J. Loder, came first. Of American Mother excellent dishes were staged, Mr. McKenzie taking the lead here with grand coloured fruits. Ribston Pippin, though not quite so good as last year, was shown in fine form by Mr. C. A. Bayford, gardener to Mr. C. Lee-Campbell, Ross, who secured first prize. In the class for Rosemary Russet, Mr. J. Tallack, Livermere Park, was first. Mr. Hudson, gardener to Messrs. de Rothschild, Gunnersbury, showed the best Scarlet Nonpareil, a good

This variety appears to be deficient in colour this year. Sturmer Pippin was not well represented, this fine late Apple requiring a sunny autumn, Mr. G. Chambers, Mereworth, being at that with a fairly good dish. Eleven dishes of that worthless Apple Worcester Pearmain were put up, the best coming from Mr. W. G. Empson, gardener to Mrs. Wingfield, Ampthill. In the "any other variety" dessert class, which contained twenty-four dishes, fine and large samples of the Melon Apple, staged by Mr. Spencer, gardener to Mr. H. C. Moffat, were placed first, though the fruits were altogether too big for the dessert dish. Mr. Woodward followed with Washington, this attractive variety also taking third place, the exhibitor being Mr. W. Slogrove, gardener to Mrs. Crawford, Reigate. In this class were many other good dishes, amongst others a very pretty dish of that useful Apple the Winter Peach. Alfriston brought out eight dishes, all very even and exceedingly good, Mr. McKenzie taking first place. In the class for Bismarck there were some splendid fruits, scarcely a blemish being found on any of the eleven dishes, while that shown by Mr. McKenzie was extra fine. The first three dishes of Blenheim Orange, which had presented some difficulty to the exhibitors, were placed Mr. Bamster, gardener to Mr. H. St. Vincent Ames, Bruton, first for a dish of large and well-floured fruit, the weight of which was, however, rather exceeded; second, Mr. W. King, and third Mr. W. H. Golden, gardener to the Hon. F. W. Burton, who exhibited a dish of exceedingly fine fruits. Bramley's Seedling was also a popular class, in which the fruits were fine, clean and even. The first-prize dish was well ahead of many other, and was shown by Mr. J. Gibson, gardener to Prince Hatfield, Chippingham. In the class for Cellini, the judging was a little erratic or hurried, for the dish placed first out of ten contained two very badly shrivelled fruits. Of Cox's Pomona sixteen dishes were shown, and these were mostly fine; that exhibited by Mr. W. King, who secured first prize, was extra good, of fine colour and large. Dunelum's Seedling was very poor, only the first placed three dishes showing anything like the good quality we are wont to find in this popular Apple. The first prize dish of Eckliviline shown by Mr. McKenzie was very fine indeed, and the remaining five dishes were all good. Emperor Alexander being a handsome showy Apple, though one which may easily be over-planted on account of its softness and bad keeping properties, is always largely shown, and very fine the thirteen dishes looked. Mr. Woodward being first with large and highly coloured fruits. The same exhibitor was also successful with splendid fruits in the next class, viz., that for Gascoigne's Scarlet, which also brought out some handsome fruits. Golden Noble was represented by nine dishes of bright and clean fruit, all three of the prize-taking dishes being good, while though the second prize lot was just a little greenish, Mr. Woodward was placed first, and Mr. T. W. Herbert, gardener to Mr. J. T. Charlesworth, second. The character of Granada will scarcely be improved by the very spotted and poor fruits exhibited in the class devoted to that variety. For New Haven the ten dishes) the first prize went to Mr. T. W. Herbert, gardener to Mr. J. T. Charlesworth, Nutfield, for a fine dish, and the second to Mr. Woodward. Horned' s Pearmain was only represented by three dishes. The first prize lot from Mr. McKenzie was good, as was Mr. Woodward's second prize dish. Lane's Prince Albert was exhibited in grand form in all but two or three cases, seventeen dishes in all being put up. The first prize dish, shown by Mr. Ross, gardener to Captain Cartairs, was one of the finest dishes of Apples in the competitive classes. The next few dishes came so closely together in quality as to make judging a difficult task. Of Lord Derby nine dishes were staged, the first three being good and even. Mr. Woodward headed the prize-takers, and he was closely followed by Mr. G. H. Sage, gardener to Earl Dysart. Mr. Woodward was again first for Lord Grosvenor, his only opponent having a very

spotted dish, and again for Lord Suffield Mr. Woodward's exhibit was the only good dish shown. More de Monseigny, though put up by nine exhibitors, was not so good as it was last year. In this class Mr. T. Turton was placed first for a good dish, followed by Mr. Woodward with a better coloured, but less weighty lot. For Messrs. Pearson and Sons' prize for Newton Wonder the competition was keen. Mr. Hudson, gardener to Messrs. de Rothschild, was placed first, Mr. Harris, gardener to Mr. P. Crowley, Croydon, second, and Mr. T. Oliverson third. Handsome samples of the very large and soft Peasgood's Nonsuch were shown by ten competitors, and these left nothing to be desired in the matter of appearance. Mr. F. G. Powell, of the Hort. College, Swanley, put up the first prize lot, and was followed by Mr. J. Morter, of Upper Norwood. Mr. Woodward was first for a good dish of Royal Jubilee and also for Sandringham, the latter bringing out six dishes of good fruit. Sterling Castle was very uneven, Mr. Bannister winning first with heavy fruits. Five dishes of St. Osyth's or Loddington Seedling were put up, Mr. Woodward's first prize dish being very good indeed. Of The Queen's six good dishes were shown, and here Mr. T. W. Startup came first, followed by Mr. G. Chambers. Tower of Glamis also brought out what purported to be six dishes, though but five were true, Mr. C. Rose showing the best fruits. A fine show of Warner's King was made by fifteen exhibitors. Care should be taken not to overplant such a soft Apple, grand as it is in its short season. Before the first day of the show was over one lot had become entirely brown and others were following suit. Mr. McKenzie secured first prize, and the second went to Mr. H. C. Prinsep. In the "any other variety" class for cooking Apples, judging again appeared erratic, the first prize being given to a small, but highly-coloured dish of Hollandian from Mr. W. Mancey, Upper Gatton, Merstham; a splendid dish of Gloria Mundi coming from Mr. McKenzie being placed second, and a fine dish of Waltham Abbey third (twenty-six dishes exhibited). In this class Frogmore Prolific was shown in wretched form, almost rotten.

PEARS.

Pears were generally good and clean. The grand dish of Beurre Diel exhibited by Mr. W. J. Pragnell, which gained first prizes in their individual classes, have probably been but rarely equalled by outdoor grown fruits. Most varieties are ripening too soon this year, and it was a little late to see the late October varieties already ripe. The class for Bergamot d'Esperence brought out nothing special, the first prize being taken by Mr. A. Basile, gardener to the Rev. O. L. Powell, Weybridge. Another good exhibit (nine dishes were shown) Beurre Rose was in good form, and Mr. A. Andrews, gardener to the Rev. W. Lowther, Campey Ash, Wickham Market, was first with a nice dish. To the exhibit of Beurré Diel we have already alluded. Mr. Wythes, gardener to Earl Percy, Syon House, first from sixteen competitors, all of whom showed good fruits: Mr. Woodward was second. Mr. Woodward was first for a fine dish of Beurré Hardy, and all three prize dishes were good. Beurré Superfis was also shown in fine form by the first two prize-winners, Mr. Woodward and Mr. Goldsmith, in the order named. Mr. Nicholson, gardener to Mr. J. W. Melles, showed the only dish of Conference, and this was good. The prize lots of Doyenne du Comice were magnificent and the class was good throughout. There were sixteen exhibitors, Mr. B. Calvert (gardener to Col. Archer Houbion, Bishop's Stortford) coming first, with Mr. Woodward second. Twelve exhibits of Durondeau included the dish already mentioned as shown by Mr. Pragnell, and this was far and away ahead of the others. Easter Beurré was well shown by ten exhibitors, Mr. E. J. Powell (gardener to Col. Brymer) coming first. A fine dish of Emile d'Heydt secured first prize for Mr. Woodward, and he got a like award for Glou Mor-

ceau. Josephine de Malines is fine this year, and brought out sixteen dishes, at least six of which were far above the average. Mr. C. Rose, coming first and Mr. Woodward second. Louise Bonne de Jersey was finely shown by Mr. Gibson, gardener to Prince Hatzfeldt, who came first, and by Mr. Bowery (gardener to Mr. H. H. Hurvard), who was placed second. The class for Marie Louise brought out sixteen exhibits, rather irregular. The first card should have gone to the second prize lot, which was heavier, not coarse, and being still rather green, was more in season. Mr. Hill (gardener to Mr. C. R. W. Adeane, Cambridge) was placed first, and Mr. W. A. Cook, of Calne, second. For Nouvelle Fulvie, Mr. Spencer and Mr. Wythes took the first and second prizes in the order named for good fruits in each case, while the first prize for Pitmaston Duchess went to the Horticultural College, Swanley, Mr. W. Mancey coming second. In judging this class ripeness was preferred to size, as some wonderfully heavy dishes were passed by. The first prize dish of Seckle shown by Mr. Rose was good, as also was the only dish of Souvenir du Congrès, which was shown by Mr. Bannister and awarded a first prize. Winter Nells was fine and largely shown, eighteen dishes being on the board, Mr. R. Edwards coming first with an excellent dish, closely followed by Mr. Woodward. Twenty-four dishes were put up in the class for "any other variety," first and second going to Duchesses d'Angoulême, exhibited by Mr. W. Sanders, Andover, and Mr. H. C. Prinsep, Buxted, in the order named, the third prize going to Mr. W. Popo for Marie Louise d'Uccle.

MISCELLANEOUS.

Collections of fruit not for competition were very numerous and good, and generally well staged. Grapes and Pears were shown very well by the Royal Horticultural Society, the fruit coming from Chiswick Gardens. The Grapes were in some cases damaged in transit, but the Pears were of good size and sound. The best varieties were Pitmaston Duchess, Beurré Bourc, Beurré Diel, Triomphe de Louvain, Marie Benoist and Conference. A collection of Tomatoes (handsome, shapely fruit) came from Messrs. Fellowes and Ryder, Orpington. Messrs. J. R. Pearson and Sons, Chilwell, Notts, staged a large collection of their fine Apple Newton Wonder, showing some really splendid fruit. A large collection of Apples and Pears—effectively arranged in baskets of various sizes, as well as on the ordinary plates—was shown by Messrs. Cheal and Sons, Crawley. Their exhibit included fine examples of Jubilee (richly coloured), Queen, Peasgood's Nonsuch, Warner's King, Prince Albert, and Alexander among the Apples; while of the Pears, Catilla, Pitmaston Duchess, Beurré Clairgeau, General Todtbeben and Marie Benoist were the best. Miscellaneous fruit was also well shown by Messrs. Paul and Son, Cheshunt, their exhibit including an interesting lot of Royal Muscadine Grape, grown on a wall out of doors, and good baskets of Cox's Pomona, Cellini, Lane's Prince Albert, Bismarck and Warner's King Apples. The following Pears were good: Marie Louise d'Uccle, Beurré Hardy, Glou Moreau and Director Alphonse. A particularly attractive and interesting exhibit from Messrs. Veitch and Sons, and consisted of an extensive collection of berries and small fruiting shrubs. Among the many beautiful things were Hippophae rhamnoides, its branches thickly covered with brilliant orange yellow fruit; Rosa rugosa, the handsomest of the Roses when in fruit; Gleditschia triacanthos, with its curiously twisted red-brown pods; a number of the bright and pretty Perennias, Cratagus orientalis and C. coccinea corallina, two very effective shrubs; Cotoneaster microphylla, Viburnum rugosum, with its fruit of a peculiar metallic-blue, and V. Opulus, brilliant red and almost transparent; the beautiful Strawberry Tree (*Arbutus Unedo*), *Euonymus europaeus*, with a great profusion of delicate rose-pink seed vessels and the handsome and graceful *Berberis vulgaris*. A really fine collection of Apples was sent by Major W. Blythway, Llanelli. The finest varieties were Peasgood's Nonsuch, The Queen, Manks

Cadlin, Blenheim Orange, Grand Duke Constantine, Seaton House, King of the Pippins, Bismarck and Glory of England. This pretty exhibit was a representative collection of ornamental and cider Apples shown by Mr. John Watkins, Hereford. The colour of the fruit was remarkable.

Messrs. Veitch and Sons exhibited a collection of Apples of great merit, the fruit being firm and well coloured. An equally fine collection of Pears came from the same firm. Another large and nicely staged collection of Apples and Pears came from Messrs. C. Lee and Son, Hammersmith, Cellini, Gloria Mundi, Old Nonsuch, Lane's Prince Albert, Potts' Seedling and Duchesse. Fairweise Apples were good. A splendid collection of miscellaneous fruit came from Messrs. Rivers and Son, Sawbridgeworth. Very conspicuous were Apples and Pears on pot trees, many of them being heavily croppped and all in fine condition—Bismarck, Gascoigne's Scarlet, Bijou, Conference, Marie Louise, and Doyenne du Comice being especially fine. The Plums, Grand Duke, Nonsuch, Autumn Beauty, Rivers' Late Orange, and Coe's Golden Drop were excellent. Of picked Apples, Cox's Orange Pippin (superb), Emperor Alexander, Worcester Pearmain, Warner's King, Lane's Prince Albert, Bismarck, Ribston Pippin, and Peasgood's Nonsuch were noteworthy. The finest Pears were Parrot, Beurré Hardy, Magnate, Duchesse d'Angoulême, and Louise Bonne of Jersey. Perhaps the best things in the collection were the two baskets of Cox's Orange Pippin and Ribston Pippin, both of which were remarkable. A number of handsome late seedling Plums was also very fine. A nice lot of Apples from Messrs. S. Spooner and Sons, Hounslow Nurseries, included good fruit of Cox's Orange, Carlisle Codlin, Blenheim Orange, Duchesse Favartie, Wellington, and Scarlet Nonpareil. A very fine and well staged exhibit of miscellaneous fruit came from Messrs. Laing and Son, Forest Hill. A large collection of cider Apples was shown by Messrs. W. Gaymer and Son, Atterborough. The fruit was for the most part well grown, well coloured, and very sound. Yet another collection of miscellaneous fruit came from the Horticultural College, Swanley. A collection of fruit shown by Mr. H. Berwick, Sidmouth, Devon, was remarkable for the splendid colour of the Apples, especially Barnack Beauty, Jefferson, Worcester Pearmain, Col. Vaughan, King of Pippins, Gascoigne's Scarlet, and Cox's Pomona.

MISCELLANEOUS FLORAL EXHIBITS.

These consisted chiefly of Dahlias, which were shown in great variety by the well-known exhibitors, and of tuberous Begonias, which were particularly good and most effective. These, too, came from the usual firms who make of this popular flower a special feature. These groups were arranged most effectively as backgrounds here and there on either side of the transepts from end to end, thus telling with the best possible effect. On one of the central diamond-shaped tables Messrs. Veitch and Sons staged a most effective group of Nerine Fothergillii major, which made a brilliant display, the plants bearing numbers of their bright umbels of flowers. Cultural skill was here very apparent.

A full prize list will be found in our advertisement columns.

Names of plants.—*Riverton*.—Probably *Catostemum Christianum*.—H. S. The Bladder Seuna (*Codium acutum*).—Mrs. Cornish. Dyed flowers of Achillea pumila fl. sp. W. A. G.—The Spindle tree (*Euonymus europaeus*).—B. R. Polygonum Brunescens.—C. Edwards.—1, *Oncidium flexuosa*; 2, *Phione lagenaria*.—W. Richardson.—Catleya Lodigiana.

Names of fruits.—*Uva-succosa*.—Fruit in paper bags, and in Mr. Veitch's Seedling. 2, Standard Pippin. 3, Bladnoch's Nonpareil. 4, Pitmaston Duchess. 5, unrecognised. 6, Marie Louise d'Uccle. —*Annona*.—Annona bertsia affixed with matting: 1, Yorkshire Beauty; 2, Fearn's Pippin; 3, Stoney Ladright n.; 4, Lady Henniker.—*G. Bolas*.—Apple, Pig's Nose.—T. F. 1, Beurré Clairgeau; 2, Brown Beurré; 3, Swan's Egg; 4, Easter Beurré.

No. 1800. SATURDAY, October 17, 1896.

Vol. L.

"This is an Art
Which does mend Nature; change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare.*

ORCHARD AND FRUIT GARDEN.

SHORTENING VINE SHOOTS.

WOULD any reader of THE GARDEN give me advice respecting the shortening of the shoots of Vines in order to get the lowest eyes better ripened? (1) At what time should it be done, if done at all? (2) how much of the shoots has to be taken off? (3) is it necessary to shorten all the shoots at one time, or must this work be performed at intervals? A shoot is, for instance, about 20 inches long, very thin and weak, and the foliage is just beginning to colour. Do I strengthen if I take off about half its length? When is the right time to cut off the lateral growths? One always reads that it is very important for getting good spurs of equal strength to shorten well back the young rods. I have followed this advice and did not spare the knife, but the results are not first-rate. My Vines are about four years old; they are in good health and the border is filled with roots, but, nevertheless, I cannot get spurs of equal strength. For instance, a rod shortened back last autumn to about 5 feet broke this spring very unevenly. At the upper end I obtained two very strong shoots, two much weaker ones in the middle, and finally, at the lowest end the eyes did not break at all, or they developed two very weak shoots.—R. KATZER, St. Petersburg.

** Among Grape growers in this country difference of opinion prevails as to the advantages attending the practice of early pruning the lower laterals on Vines with a view to strengthening the basal buds. Personally, I must confess to a doubt as to the gain in favour of this piecemeal pruning, but if it does no good it certainly is not harmful. "R. K." will do well to commence pruning his laterals (rather long ones they are) at once, and he ought also to have an experiment of his own in connection with this pruning. Let him shorten the lower laterals of some of his rods to the third joint or leaf, leaving those on the upper portion of the Vines to nearly or quite their full length. Other rods he can partially prune throughout their entire length, completing the pruning directly after the leaves fall. He will then have ample opportunities next season for arriving at a definite conclusion in the matter. In this country it is a fairly common practice to shorten the country to about half their original length soon after the leaves commence changing colour, with the intention in some cases of strengthening the back buds, and in others principally with the aim of utilising the houses for Chrysanthemum culture. At that late date I doubt if this shortening does materially strengthen the basal buds. It is my belief the character of these is already formed, and that what may be termed a wholesale removal of leaves seriously militates against the much-to-be-desired strong root action that ought to result from the additional supply of "returned" sap. It is in the autumn, or after the crops are matured and the buds well formed, that root action is, or ought to be, most brisk, and that is why root lifting and relaying in fresh soil are performed while yet the leaves are capable of performing a portion of their functions.

It would really appear more a question of torched-up sap than conspicuous buds, though

I prefer cutting to a stout bud on Vines. For instance, who has not seen good bunches produced on breaks that emanated not from a well defined joint or bud formed at the base of a leaf-stalk, but from embryo buds that would never have existed had they not been forced out by hard pruning. More than half the bunches grown are produced by laterals springing from buds formed at the base of quite the smallest leaves, but if the laterals are shortened to the second or third buds from the rods these produce larger and frequently looser bunches, while the back buds if they break may not give a small bunch even. If, however, we prune the shy bearing varieties, notably Gros Guillaume, and in a less degree Buckland Sweetwater, very severely, we run the risk of having no bunches at all. Much more might be advanced upon this, to me, most interesting phase, but "R. K." who puts his queries in an intelligent form that I would commend to English readers who also may need advice occasionally, is more concerned about the weakness of the lower laterals on his Vines.

This is what he says. "One always reads and hears that it is very important for getting good spurs of equal strength to shorten well back the young rods," but it appears the result of his following this advice was not satisfactory. If the truth could be got at, very many others who have followed this common, and in my opinion (repeatedly expressed in these pages) most erroneous practice, have been equally disappointed. Mr. J. Simpson was one of the first to boldly condemn this free use of the knife, and it is to be hoped made more converts than most of us are aware of. Why grow so much good wood only to cut away again? The plan I advocate and practise, to my own satisfaction at any rate, is that of stopping young canes at the height or length at which they are to be left at pruning time. For instance, I planted one side of a long span-roofed house in March, 1895, with small "cut-backs" of Gros Colman. The greater part grew strongly, were stopped at a length of 8 feet, and the laterals resulting, at the first joint. All the winter pruning consisted of cutting out the short laterals. Those rods broke most satisfactorily, and are carrying some three, some four, good well-finished bunches apiece. The leaders were stopped when about 4 feet long, and next season the Vines will be cropped to their full length. What few that were too weak to carry bunches I cut back hard, and these have formed long, clean canes that will be left to their full length—8 feet. When we leave a rod of a Grape Vine or well-matured shoot on a fruit tree to its full length at pruning time, there is a natural uninterrupted circulation of sap possible in the spring, and as a consequence a regular and even break. Shorten them, however, lightly in the winter, and it will be found that the sap rushes to the ends and apparently remains there, one or two strong growths resulting, while below there are few or no breaks. That "R. K." has also found to be the case, and if I have made myself understood, he will now begin to see that early pruning is not the only or even true way out of the difficulty.

He appears to have omitted one important cultural detail. Whether the rods are winter-pruned at the extremities or not there will always be an inclination to break the most strongly at the ends, at the expense of the lower breaks. To counteract this we, in this country, either depress the ends considerably, or else coil the rods round so as to bring the ends down to the front of the house. Sometimes the rods are all trained along the fronts

and kept there till the buds have burst, which, thanks to the check given to the natural upward rush of the sap, they do most regularly to their entire length. Especially is this lowering of the ends necessary in the case of young rods. They must be induced to break evenly at first, or otherwise they will always be badly provided with fruiting spurs, and it will also be found a difficult matter to strengthen spurs once they are greatly outdone by their neighbours higher up. Next season "R. K." ought to either coil or depress the ends of his Vines, gradually straightening and raising them as the lower breaks are disposed to take an undue lead. If by any chance the uppermost laterals are disposed to grow the strongest, the points of these should be taken out at two joints beyond the bunch showing as early as they can be got at. This early stopping of both laterals and sub-laterals forming on these, diverts the sap to where it is most wanted, and is a good means towards the desired end. Nor ought the leaders to be allowed to rob the weakly lower growths. In the old hard pruning days it has been even found necessary to completely remove the two uppermost breaks, their disappearance soon improving the character of the lower shoots. A leader can easily be had from breaks lower down. Supposing "R. K." to be dissatisfied with the appearance of his old rods, I should advise him to start fresh ones from near the bend in the roof, and these in one season ought to be strong enough to take the place of the old rods, cutting the latter clean out directly the crops are cleared off next year.—W. LGGUDEN.

Red spider on fruit trees.—As might be expected large numbers of fruit trees and bushes have been badly crippled by red spider this season. Wherever the trees or bushes are in a half-starved condition it is on these the red spider makes the most impression, and I have recently seen large breadths without a green leaf on them. Many present the appearance of having been burnt, the leaves having changed to a brown colour and curled up. Gooseberries have long since shed many of their leaves, and these in common with the spider-infested trees must be weakened beyond recovery in a single season. Trees and bushes that started healthily and strongly seem to defy red spider attacks, and good culture ought therefore to be the remedy in the future, as it is very certain no insecticides would be of any real service applied to orchard trees.—I.

Apricot Large Early.—As far as size is concerned, the Large Early is the finest of Apricots, and the individual fruits may grow almost as large as a Peach if the crop is well thinned. Both fruit and foliage are very distinct in appearance, and the bark on the older branches is more grey-looking and warty than in other varieties. The fruits are oblong, flattened at the sides, and the colour is a deep orange, quite reddish when fully exposed to the sun. The flesh is similarly coloured, but somewhat firm, and on this account invaluable for bottling, as the fruits do not bruise so readily as Moorpark or Hemskirk. This tree is a vigorous grower, and when planting on strong rich soils this fact should be borne in mind, mixing lime rubble or similar material with the soil to counteract it. The variety is hardy and prolific and not so prone to branching as others. On a south wall the fruit ripens about the middle or end of July, much depending on the season. On a west wall there is a difference of ten days. It is a valuable kind on account of its earliness, but it cannot compare with Moorpark for richness of flavour. All the same I would recommend one or two trees being planted when forming a new collection or adding to an existing one.—GROWER.

Plum Cœ's Golden Drop.—This is an indispensible variety where late Plums are in de-

mind, either for cooking, dessert or for bottling. When bottled in syrup it is delicious and most useful for augmenting the dessert during the winter months. When required merely for cooking the syrup is not necessary, and the fruit may be bottled in the usual way. It will hang for a long time in good condition on the trees, and in seasons when wasps and flies are troublesome it pays to cover it. When covered it will hang until it shrivels and it is then most delicious. To secure a long succession of fruits, trees should be planted in different positions; sites on walls should be west, east, north west and northern aspects should be chosen, and if one or more trees are planted on each they will give fruit up to the end of October. The tree grows strongly as a young state, but lifting and recutting it. It is a free-bearing variety and succeeds best as a wall-tree. I have it as a standard, but cannot recommend its being grown in this form, as it is only in favourable seasons that it bears. As a cordon I can speak well of it, as it is then very prolific. It is also a grand variety for orchard house culture.

Pear Knight's Monarch.—I have a tree of this Pear in espalier form this year carrying a full crop of fruit, but the majority of them have already fallen, and I think the remainder will also fall. The same thing occurred last season, which I then attributed to the dry weather in September, but this summer the rainfall hereabouts has been much greater. I used to grow it on a west wall in Essex, an old spreading horizontal tree, seldom failing to bear a crop, and I do not remember the fruit ever falling. The few fruit I managed to secure last autumn and stored ripened up of fairly good flavour, but I really think, to do Knight's Monarch justice, a wall is necessary. Any has reader had experience with this Pear either in espalier or pyramid form?—J. CRANFORD

Melon Hero of Lockinge.—Few Melons have stood the test of time better than this pale-fleshed variety. I do not think I have ever judged at a large show without seeing several fruits of Hero of Lockinge, and in nine cases out of ten it is conspicuous as a prize winner. One reason of its popularity besides its good flavour is that it has such a hardy free-fruiting constitution, that those possessing only limited Melon-growing accommodation find it answer their purpose so well that they always include it in their seed list. I think I may safely say that it is grown at the present day as when it was first sent out, which is now more than twenty years ago. This is more than can be said of three parts of the Melons that are introduced.—J. C.

NOTES ON STRAWBERRIES.

Is reading "A. W.'s" article (p. 233) I was surprised to see what a limited list of what are termed first-class varieties he gives at the end of the notes. Knowing the country within a few miles of Stoke Edith, I was of opinion that in the favoured Herefordshire district the soil would have been suitable for others than those named. Of course I have no knowledge of the soil in the immediate neighbourhood of Stoke Edith, but as it is very fertile only a few miles away, I feel sure "A. W.'s" soil must be bad to condemn such well known kinds as Countess, President and La Grosse Sucré. I am aware La Grosse Sucré does not succeed in some soils, and in wet or badly drained land winters badly, so that I always plant closely. On the other hand, I have only in a very few cases in different parts of the country seen President fail, the plants being so hardy and prolific. I am surprised to find it omitted from the select list of 37 at the end of the article referred to. Countess so rarely fails, that I was surprised to see it included among the good sorts. "A. W." mentions it as of fine flavour and a good cropper, but of inferior colour. I think the last remark must be owing to the soil, as I have never noticed want of colour in this variety. I am again, much surprised to find Oxonian bracketed as a first-class variety. I am willing to admit its value as a late fruit, but as regards quality—

point "A. W." notes as important in his selection—I am unable to give it that good character, as it is inferior to most others he has described. I note that only the best Strawberries are counted at Stoke Edith, and most of us who study equality endeavour to act up to that difficult standard. Many are obliged to give the plants the soil suitable by incorporating with the common soil such materials as will grow those varieties noted for quality. "A. W." tried Laxton's Latest of All, as he notes most of Mr. Laxton's seedlings have passed through his hands? This is a fine variety for both flavour and size, and I am inclined to think it would thrive in his soil. Where I lived in Herefordshire the land was a heavy clay, but this difficulty was got over by mixing a large portion of burnt earth, and by so doing much better results were obtained. I am much surprised to note that the Empress of India is included in the final list of robust growers and doing well where other stronger growers fail. I note "A. W." includes the whole of Mr. Allan's new varieties. I am aware Gunton Park and Lord Suffield are more robust, but Empress of India with me, in soil that will grow most kinds, does not do well, as it is so much like British Queen in growth (one of its parents) and not robust enough. I am astonished at "A. W." succeeding with this and failing with Dr. Hogg, one of the strongest of the Queen type. It must not be inferred I object to Empress or the others named; far from it. I think them splendid in every way, but only note the one, as the soil must be variable to cause such bad behaviour on the part of some of our best kinds. Take Keens' Seedling, one of the kinds retained. How many have of late years discarded it on account of its failing to crop freely. I am glad to see that Royal Sovereign appears at home both in light and heavy soil and that "A. W." thinks so well of it, but I fear he can scarcely have had time to prove its real worth if so many varieties have failed so badly after a longer trial. Again, the newer Empress of India, Gunton Park, and Lord Suffield come under the same conditions as to time and may he fail with these in the same way as he has with the popular kinds named above, and if he does, that leaves him with only three varieties. Sir J. Paxton's Keens' Seedling and Oxonian, three kinds, he has been induced to place as secondary. I have noted the defeat of Keens' Seedling and Oxonian. This leaves Sir J. Paxton, a grand fruit, but in my opinion not equal in flavour to many "A. W." has condemned. Such notes as the ones referred to point out the difficulties of growers, and how necessary it is to study the wants of the plants.—S. H. M.

Your correspondent, "A. W." (p. 253), contributes a very interesting article on the behaviour of Strawberries in his garden, and it was very striking to note what a number of sorts he has tried and found wanting in some important respect. I do not remember having seen such an exhaustive list given with so few approvals before. No doubt Strawberrie do vary very much on different soils, and what is suited to one garden is quite indifferent in another. Sir Joseph Paxton, which "A. W." is able to speak so highly of, is not satisfactory in some gardens. In my case it is, and has been the most generally satisfactory that I have grown, but a neighbouring gardener, who has a fame for good Strawberries, finds it unsatisfactory. Royal Sovereign with him, too, fruits splendidly, but at the present time his plants are attacked with mildew, which causes the leaves to curl. I have not previously heard any report of such a failing with this variety, but in other places there show any sign of it. In this field it is deeply rooted and distinct from that of all others. "A. W." does not mention Laxton's Late of All, and, presumably, this would scarcely be acceptable on account of its pale colour at the points, otherwise it is a good Strawberry, and with many growers and consumers this failing is passed over on the score of free cropping and the large size of the berries. It suffered badly from drought this past summer, and was a victim to red spider, but it still remains.

mains a favourite. James Veitch, a fine kind on some soils, produces little beyond a luxuriant runner growth here. Auguste Boiselerot is a strong grower, but its fruits are not proportionate, and it is not given the extensive space it was intended to have.

There is a diversity of opinion regarding the planting of Strawberry bushes, some adopting a 2-foot space each way, others preferring 6 inches or 1 foot more between the rows so as to give free access to the ripening fruits. While quite small the plants may easily be planted a foot apart, and after the first crop double the number of plants can be fruited on the ground the first year, and by that time the 2-foot space will not be too much—*at least*, with strong-growing sorts. Loxford Hall is the smallest growing kind I know, and may be planted at 1 foot apart between the rows, but it is not everywhere where it will do. On soil or overlying gravel I have seen this variety in splendid form, fruits of such a size and in such numbers that there appeared a much greater preponderance of berries than foliage. On a north border on such a soil Loxford Hall is an invaluable kind. On heavy land it is useless attempting to grow it, for its constitution, like that of the British Queen, is very weak.—W. S., Wilts.

— A more dolorous jeremiad on the decadence of the Strawberry than that which appeared (p. 253) over the initials "A. W." it would be impossible to conceive. The curious point in this complaint is that certain varieties do well for a time, and this would lead one to suppose that the fault does not lie in the soil. Supposing, however, that the soil is at fault, I would strongly recommend that it should be brought into condition to suit the best varieties as permanent occupants of the garden instead of trying to get varieties to suit the soil, for the former could undoubtedly be done for much less than the initial cost of stocking so many new varieties, only to discard them eventually. Fortunately, such a state of affairs is not common, and one would think that any difficulties with soil in the case in question could be overcome by judicious lightening of the heavy staple soil with which "A. W." is to deal. This might be managed in one of many ways or with a combination of all, and I should suggest first of all burning a portion of the soil and adding all available wood ashes, refuse from the garden smother, mortar rubble, leaf-mould, and in fact any light material which presents itself; digging this in during fine weather when the staple soil is in its best condition for being stirred. Is the garden or Strawberry quarter

well drained?" If not, this should be done at once, putting the drains well down out of reach of the spade, which is bound to knock them about, as it should be before planting if the plantation is intended to stand on the three year system. Many gardeners (myself included) who have a very light soil to deal with would be only too glad to treat their Strawberry ground to some of the heavy soil which is supposed by "A. W." to be inimical to his Strawberries. Only about 50 per cent. of the varieties mentioned by "A. W." have been grown by me, and I have nothing to say on the merits or demerits of the residue, but when we find such good and universal favourites suitable for most, though I will not say all, gardens (Stoke Edith apparently must be ruled out) as President and Viomottesse Héricart de Thury coming under the ban, the case is indeed a bad one, as I have never yet found the soil which would not or could not be made to grow these British Queen and Wadsworthian varieties in every garden. I must congratulate "A. W." on his success with Oxonian (syn. Eleanor), seeing that "none but the best are tolerated," and that he stimulates for size, good colour, and flavour, the last quality being generally more than deficient in this old and very late variety, and no one will be likely to charge him, as he fears, with being too fastidious while he can give it such an unequalled good character. Again,

Sir Joseph Paxton, though, perhaps, the finest-looking Strawberry, taken all round, that we have, is hardly noted for its universal good quality, and I place it from this point of view as about equal to, but no better than, Noble, and greatly inferior to President. I would strongly recommend "A. W." to get an old variety, Mrs. Woodruff, which is largely brought into the market at Bury St. Edmunds from the heaviest soil in the neighbourhood. It is of good appearance, large, of good quality, a great favourite, and has held the market in this district for very many years, though it has apparently gone out of cultivation in the country at large, as it is but seldom mentioned in catalogues. There should, however, be no difficulty in obtaining it from this neighbourhood. It is to be hoped that the new varieties mentioned by "A. W." will bring the test set up to now will be more fortunate than their many predecessors, and later information on their behaviour at Stoke Edith will be looked for with interest.—J. C. TALLACK.

MORELLO CHERRIES IN AUTUMN.

I NOTE Mr. Wythes's views in THE GARDEN, pp. 263, 264, on the general principle of getting rid of as much very small and leggy wood as prudent at this season of the year, with the object of more thoroughly maturing the buds and wood selected for next year's furnishing and fruiting. There may be general agreement among growers, though few would be prepared to recommend anything like the general spurring of Morello Cherries. Neither is there any need of changes in this direction. I have noticed for years that, as a rule, the heaviest Cherry crops especially were always gathered from the Morellos. This may not prove our present system of laying in young wood for an annual crop infallible, but where properly carried out it has assuredly done two things—renewed the youth of the trees every year and furnished good crops of Morello Cherries. With these two benefits, it might be wise to let well alone before spurring them in. It might even be wiser to treat many, mayhap all our other Cherries, like Morellos and Peaches in regard to the annual supply of young wood that to spur our Morellos like other Cherries. While writing thus, however, I quite agree with Mr. Wythes that far too many and too weak young shoots are often crowded into Morello Cherry trees. In pulling them up and down, I have seen not a few Morello Cherry walls so crowded with shoots, nubs, and shreds, that it seemed almost impossible to see the trees. Such extreme crowding is by no means rare, and it is at once a waste of labour, money, vital force, and of quality. Mr. Wythes says on these spurrs he has got his best fruit. We have heard this before in relation to other stone fruit, as Peaches, Nectarines, and Plums, and yet we are still a long way from the general spurring of either, and further still probably from the spurring of Morellos like other Cherries.—D. T. F.

—I do not think Mr. Wythes (p. 264) need fear any criticism on the course of treatment he recommends for Morello Cherries. It is a system of pruning and tending the branches which I have carried out ever since I have had the management of trees on my own account, and also had to follow under others. In fact, I cannot see how any other system satisfactory crops of Morello Cherries could be secured. Overcropping is avoided, and each shoot and spur (the latter either formed naturally or by pruning back unless or crowded spray) have space to develop the fruit. My practice is to go over the trees in the early summer and prune back all lateral growths for which there will not be space to lay in. At this season, now that the fruit is all gathered, the trees are all overcropped, unless shoots being cut out, so that their place can be taken by more fruitful ones. By attending to the trees at this season the wounds heal over, and besides, any nailing or training which it is necessary to do is more expeditiously carried out on account of the comfort to the workmen.—A. YOUNG.

BEST MARKET PEACHES.

I SHALL be obliged if any reader will inform me which are the three or four best Peaches for market in rotation, and also the best Nectarines for the same purpose.—J. F. R.

* * * High prices have been obtained for good fruit of Peach Early Alexander marketed in April, and the variety Waterloo, which bears a strong resemblance to it, is also remarkably early. Unfortunately, neither of them can be termed reliable, as they rarely fail to shed the greater portion of their flower-buds prematurely. After seeing the grand crops of Amsden June grown by Mr. Wythes at Syon House, Brentford, and hearing his testimony in favour of that variety, I decided to give it trial, with the result that it will soon replace the trees I am growing of the two first-named sorts. All three are of American origin and are alike vigorous without actually becoming gross in habit, but Amsden June retains its buds better, no difficulty being experienced in setting a good crop, which ripens a fortnight earlier than any English variety I have yet tried. This should be "J. F. R.'s" earliest variety, and he cannot do better than plant Hale's Early by way of close succession. This also is disposed to shed its flower-buds prematurely, but never, according to my experience, to the extent of spoiling the prospect of a full crop. If overcropping is avoided and a fair amount of light and sunshine reaches the fruit, this will, in common with Amsden June, be large, highly-coloured and good in quality. Crimson Galande is a model market Peach, this never failing to set a heavy crop, while the fruit is of good size, very highly-coloured and of excellent quality. That is my third variety, and if "J. F. R." wants a fourth he cannot do better than plant Dymond, a sure bearing, highly-coloured, richly-flavoured Peach. It will thus be seen only early and second early varieties are recommended, for the very good reason they are by far the most profitable. Should he desire a long succession with a view to meeting local requirements, then he may plant Amsden June, Hale's Early and Sea Eagle. In this case there may be a slight break between the second and third, and again between the third and fourth varieties. Last season I carried on a steady supply of ripe fruit from the end of May to the first week in August from trees (all in one long house) of Amsden June, Hale's Early, Crimson Galande, Dymond and Sea Eagle. Extra late Peaches, or any that ripen under glass after the bulk of open wall fruit is gathered are profitable. In this instance no fire-heat is needed unless to save the flowers from an extra severe spring frost, and everything in reason should be done to retard the trees. Peach cases against a wall with a nearly east aspect answer well for the production of late Peaches, and the best varieties to plant are Osprey, Walburton Admirable, Prince (not Princess) of Wales, Sea Eagle and Salwey. Sea Eagle is the most profitable, this remarkably fine Peach being a sure and heavy cropper. The fruits are of attractive appearance and good quality, also keeping and travelling well. Whole houses have been planted with this variety, and the returns are most satisfactory. Surprise may be evinced at my having recommended Salwey, but under good culture this much abused variety succeeds admirably. The fruit is large, colour yellow with red face, and the quality by no means to be despised. This variety keeps a long time and I have known good samples fetch 1s. per dozen. I have kept house-grown fruit as late as November, and they were a welcome addition to the lists of dessert fruit frequently wanted in quantity about that time.

In all probability "J. F. R." will not find Nectarines so profitable as Peaches. It is true a greater number of fruit can be had from the trees than is the case with Peaches, but the prices realised are considerably lower and partial failures frequently occur. The skins of Nectarines, being smooth, are most susceptible of injury from moisture that collects on them after syringing, careless ventilation having much the same effect. Early Rivers is undoubtedly the finest early Nectarine in cultivation, but moves none too well owing to the express rate of propagation and high feeding resorted to by those who are anxious to work up a large stock for sale. Lord Napier, another of Mr. Rivers' seedlings and very popular, forms a good succession to Early Rivers. As a third market variety I would grow Humboldt, as being more easily grown, if slightly inferior in quality to either Pine-apple, Pitmaston Orange, or Stanwick Elrige. Elrige is an old favourite of fairly easy culture, fruit showy, and of moderately good quality. That might be the fourth variety if wanted. Victoria is the latest Nectarine and a good companion for the late Peaches previously alluded to. It is a heavy cropper, the fruit large, and, if well exposed, of fine colour. The quality, in common with other varieties of Nectarines, is variable, but I have had it good.

Market growers cannot afford high walls for lean-to or three-quarter span-roofed houses, but are content with long span-roofed houses running from north to south and about 14 feet wide. Trees are trained up the roof on both sides, but if wider, higher structures are built for them, then the plan of training against cross trellises holds good. Instead of buying expensive trained trees which do not invariably start into growth satisfactorily, I prefer to plant maidens, cutting these back to about one-half or two-thirds, if well ripened, of their length, lateral growth being closely cut off. Four or six well-placed young shoots are laid in, and the strongest, when about 2 feet long, are stopped. From these numerous lateral growths will spring, which ought to be thinned out, laying in the best placed only. This stopping checks grossness, strengthens the weaker, unstoppered shoots, and results in laying the foundation of serviceable trees. When maidens are thus grown under favourable conditions—and fresh, not rich soil, with plenty of light and sunshine must be considered such—they ought to develop into trees equal to producing a few fruit in the following summer, and quite a good crop during the third year.

W. IGGULDEN.

Cleaning Walnuts.—Difficulty is often experienced in cleansing Walnuts, so as to render them fit for the dessert. Different plans are adopted, but I find it best to put them into a common hempen bag, such as is used for guano, and to jostle them sharply to and fro. Two men do the job best, each of them taking hold of an end of the bag. This should be done immediately the Nuts are freed from the hods, before they become dry. If afterwards placed in sieves and exposed to the sun and air in a dry, fully ventilated viney or Peach house for a few days they will, if finally stored in a cool fruit room, keep for a considerable time. It is a ruinous practice to wash the Nuts in water, as the kernels invariably go mouldy afterwards.—J. C.

Peach Grosse Mignonne.—At page 254 "J. C." does well to note the serious drawback of the above variety if hard forced. I have just removed a very fine tree sent me some four years ago as the true early Grosse Mignonne, a very different Peach from the older kind, as the one named, no matter how well treated, if hard forced refuses to finish a fair crop, and much time is

lost. I tried all means to prevent this dropping of fruit, but failed and had to remove it. I am aware the early variety differs in the leaves and is not so strong a grower, but as regards the foliage when trees are sent home leafless they cannot be classified. From what many growers have told me the true early kind is none too plentiful; indeed, I should say it is rare. The early kind is quite three weeks or a month in advance of the kind named. I am glad to see "J. C's" note, as I in a short note advised growing the true earlier form for forcing (for open air or cool houses I have not a word to say against the old variety), but for hard forcing, growers should not plant it.—G. WYTHES.

NOTES OF THE WEEK.

Salvia azures grandiflora.—This is an exceptionally brilliant bit of blue for the greenhouse at this season, and supplies in intensity of colour what the flowers lack in point of size.

Aster ptarmicoides.—This pretty variety is not so frequently grown as its merits justify, as it is by no means a common-plac kind. Its pretty satiny white flowers are freely produced on a neat erect bush. This variety should certainly be included in all choice selections.

Begonia semperflorens rosea gigantea.—As implied by its name, this is a large form of this very useful strain, of which there is a goodly group of various-sized plants in No. 4 house at Kew, the deep rose-coloured blossoms appearing at this season well above the fleshy leaves.

Salvia involucrata Bethelli.—This and the old scarlet kind, *S. splendens*, are both excellent for the greenhouse just now, where the numerous spikes of blossom are decidedly effective. Some fine plants arranged in bold groups and flowering profusely are most attractive in the Royal Gardens, Kew.

New Tufted Pansies.—Dr. Stuart sends us some of his new Tufted Pansies, and one is Jason, of the deepest yellow in the lower parts and light primrose-yellow above. Another is Argos, something like Ariel; and lastly, Vairema, a very delicate pinky mauve. All are beautiful kinds worthy of their rarer.

Abutilon Golden Fleece.—Growing on the roof of greenhouse No. 4 in the Kew Gardens, is most effective by its crowds of golden flowers, and as there seen is very attractive. For small structures, however, its ample foliage would make too dense a shade at this time of year. As a pillar plant the same variety may be employed with excellent results.

Rhodochiton volubile.—This plant is one of the best suited among greenhouse climbers for providing a sort of transparent screen, the trailing pendent branches assuming this habit when the plant is trained to the principal rafters in the greenhouse. The plant is also very free flowering, though the somewhat bell-shaped blossoms are not of a very attractive shade.

Aster turbinellus.—In one of the greenhouses at Kew a very pretty effect is produced by this plant being arranged among other cool-loving subjects, and certainly its light and graceful habit materially assists the present display. Such kinds as this are well worthy of attention under glass in early autumn, particularly when, owing to an over-abundance of rain, such things are scarcely enjoyable in the open.

Chenostoma hispidum.—As seen at Kew in small pots, this is a pretty little sub-shrub with small white blossoms on compact, bush-like tufts scarcely more than 8 inches high and nearly bare the same through, the individual blossoms, though somewhat larger, reminding one at first sight of the pretty flowers of the Houstonia, so that an idea may be gathered of the effect of plants freely studded with similar blossoms.

Haplocahra scaposa.—This distinct looking plant among the great composite order has

been noted in flower at Kew and also in Mr. Perry's collection at Winchmore Hill. The ray florets are golden yellow and the disc of a similar hue when mature, the flower-heads being produced singly on rather whitish-looking pubescent stems that are nearly 18 inches high. Quite early in the present month, after being in flower some time, it was still attractive.

Pomegranates fruiting in Devon.—I am sending you two Pomegranates from a tree growing against the south wall of the house. Unfortunately they have cracked, owing to the excessive wet. There were nine altogether on the tree. Surely it is very unusual for Pomegranates to fruit out of doors in England.—E. C. A. BYRON, Culver, Exeter.

* * * Most unusual and most interesting; but fruit as handsome as that imported.—ED.

Fuchsia General Roberts.—This is a capital kind when grown in a free and natural manner for the decoration of the large greenhouse. The clusters of richly-coloured blossoms hanging from the roof present a decidedly cheerful feature at this time, the flowers being large, showy and freely produced over a long season. To attain this end the plant should be allowed unrestricted growth from the first, growing it to a single stem and allowing it to branch in its own way. When fully grown the flowering branches may be spurred back.

Viola odorata sulphurea.—A yellow-flowered, sweet-scented Violet now being offered for the first time by a French nurseryman, Monsieur Léon Chenuel, of 79, Rue d'Olivet, Orleans, should, I think, be a most interesting novelty, and many readers of THE GARDEN will doubtless be glad to hear of it and know where they can get it in a small box by post. It is within the reach of everyone, as the price is exceedingly moderate for a new plant. It is described by its introducer as of robust and vigorous habit of growth, with fine shining deep green foliage and flowers of a lemon-yellow, with a throat of a deeper shade and a pale violet spur behind. It was found growing wild on the border of a wood in the department of the Indre by a rural postman.—W. E. GUMBLETON.

Two good new hybrid Cannas.—Amongst a number of new varieties of these beautiful flowers received this year from English and Continental raisers, two received from Herr W. Pfitzer, of Stuttgart, stand out far superior to all the others. These are Reichskanzler Furst Hohenlohe, which is quite the finest pure yellow I have ever seen, with good broad petals and of relatively dwarf habit of growth, the top of its flower-spikes only reaching 2 feet 4 inches. Its flowers open well together and it is very beautiful. The other is Dr. Max Micheli, after the well-known Swiss horticulturist of that name. It is rather taller and of more vigorous growth, its flower-spikes reaching a height of 3 feet 8 inches. Its flowers are large, with fine broad petals of a deep orange-scarlet blotched with gold. None of the English seedlings come anywhere near these fine varieties in beauty or size of flower.—W. E. GUMBLETON.

The American Red Oaks.—Amongst trees of large size there are none, perhaps, which are capable of adding so much to the beauty of the summer landscape as the American Red Oaks. Just now at Kew a specimen of the rare Black Jack Oak (*Quercus nigra*) is a glowing mass of red. It does not, however, colour so finely every year in this country, as the leaves soon fall when the frosts come. An Oak of greater value is Waterer's Scarlet Oak (*Quercus coccinea splendens*), which is not only the most brilliant-coloured of the American Red Oaks, but has the additional merit of retaining its leaves longer than any. In ordinary seasons they will linger on well into December. *Q. palustris* (the Pin Oak) and *Q. rubra* (Red Oak) occasionally colour well, but the latter is generally too dull a tint to be very effective, and the same has to be said of *Q. tinctoria*. *Q. coccinea* and its variety

are the most brilliant and most consistent in colouring.

Cornish Heath (*Erica vagans*).—This is one of the latest flowering of all the hardy Heaths, and is still nice in bloom after the colour has all faded from the numerous varieties of the common Ling (*Calluna vulgaris*). It is one of the most desirable of native or European Heaths, being quite hardy, growing freely in any soil that is devoid of lime, and flowering with unfailing regularity from August to the end of autumn. Its dark green leaves are larger than those of most *Ericas*, and the flowers, which are produced in the closely-set leaf axils, form in the mass, large, erect, tapering racemes, which give a most graceful aspect to the plant. In the ordinary form the flowers are of a pale reddish purple colour, but there are besides a pretty variety with white flowers called *alba*, and another with more closely-packed racemes called *grandiflora*. In Britain this Heath occurs wild only on the moors of Cornwall. It grows to a height of about 1 foot, and is seen at its best planted in good-sized groups sloping banks.

Caryopteris mastacanthus.—This is one of the shrubby members of the Verbenae family and a native of China and Japan. Flowering as it does so late in the year as October, it is worth attention as one of the few of which so much can be said. It grows in this country to a height of 2 feet to 4 feet, the leaves being hairy, deeply toothed and oblong-lanceolate. The flowers appear in compact rounded clusters that originate from the leaf axil at the upper part of the stem. The blossoms are of a bright purplish blue, the large bottom division of the corolla being slightly fringed. In the south-western counties this plant would probably thrive to perfection, but as far north only as London it requires to have a specially selected spot. The foot of a south wall is an favourable place as any. It dies down in winter, and after it has done so the roots may be covered with a few inches of litter. It appears to have a harder on certain parts of the Continent, where the winters are milder, than in this country, as it only furnishes one more example of the well-known fact that in places where the summer is brighter and more prolonged a plant is enabled to withstand a much lower winter temperature than where the summer is cooler and damper. The species was introduced by Mr. Maries from Japan about sixteen years ago, but it was originally brought from China by Fortune. Fortune's plants, however, appear to have been given greenhouse treatment, and before long disappeared from cultivation.

The Cockspur Thorn (*Crataegus crusgalli*).—Most of the Thorns which this autumn have been heavily laden with fruit. Several of the most beautiful, however, like *C. mollis* and *C. coccinea*, are now past, the haws for the most part having fallen, but *C. crus-galli* still retains its full crop, and its bright scarlet-red fruits make one of the cheeriest of autumnal pictures in the garden. Like most of the shower-fruited Thorns, it comes from Eastern-North America, where it is common and is widely spread, its natural range extending from Canada southwards to Carolina, &c. It is a small, spreading tree, rarely more than 20 feet high, and has been in cultivation in Britain over 200 years. It blooms towards the end of May, its flowers white and about twice the size of those of our native Hawthorn. Most plants that are spread over large areas in a state of nature show much variation, and this is no exception to the rule. In the leaf especially it differs in size and shape, as the variat names of *arbutifolia*, *linearis*, *ovalifolia*, &c., fully justify. The leaves, however, are always smooth to the touch and grow green and remain longer on the tree than those of any deciduous Crataegus. The spines are long, stout, and slightly curved. Of the numerous varieties the most distinct, perhaps, is *pyracanthifolia*. This is a dwarf, small-leaved tree and is remarkable for forming an almost flat top, and thus assuming the shape of the letter T. Several specimens are growing in the Thorn collection at Kew.

TREES AND SHRUBS.

ANDROMEDA AND ITS ALLIES.

As commonly used in gardens, the name Andromeda has a very extended application, being made to cover a group of at least nine genera. Six of these are dealt with in the following notes;

japonica and *A. floribunda*) are properly Pieris, a genus of which there are also some deciduous species in cultivation. In the following notes each species is placed under the genus to which it properly belongs. The arrangement cannot be called a new-fangled one, for it was, in the main, adopted by Loudon nearly sixty years since. The three species of *Enkianthus*

are: (1) the selection or preparation of a cool, moist position, and (2) a soil preferably, although not necessarily, of a peaty nature, but always free from lime. Naturally heavy soils can be made to suit them very well by deep trenching and by adding plentifully during the process leaf soil, and towards the top a little peat. Where the soil is of a hot, sandy nature

large holes should be made, at least 2 feet deep, the lower half filled with a heavy loam, the upper half with a lighter compost containing plenty of vegetable humus. The point is that they should always be cool and moist at the root, and a preparation of the ground when planting that secures this is infinitely better for them in a trying summer like the past one than any amount of artificial watering. Being mostly of a slow-growing nature and compact rooting, they cause but little trouble in pruning or transplanting. The beds or borders in which they grow are admirably adapted for many species of *Lilium*, which thrive well planted between the shrubs.

ANDROMEDA.

A. polifolia (Moorwort).

—As has already been stated in the introductory notes, this is the only species which — as generic terms are allotted now-a-days — can properly be called *Andromeda*. It is a native of Britain and other parts of Northern Europe, as well as of the Northern United States and Canada. It thus enjoys a wider natural distribution than any of the so-called *Andromedas*. It is a dwarf shrub from 6 inches to 18 inches in height, with numerous branches that are thickly clothed with leaves of various sizes and shapes, but always of a dark green above and vividly glaucous beneath. It does not produce a crop of flowers at one particular season, but may be seen in bloom at any time from May to September. The flowers are of a purplish-red. The leaves are of a purplish-red. The leaves (whose edges are always curled under) vary much in shape, as do the plants and flowers themselves in size. The names *angustifolia* and *latifolia* have been given to varieties with narrow and broad leaves respectively, just as



Pieris (Andromeda) japonica (height 5 feet 6 inches) at Ardmore, Parkslow, Dorset. From a photograph sent by Professor Allman.

the other three—*Cassandra*, *Cassiope* and *Leucothoe*—although nearly allied to the true *Andromeda*, are sufficiently distinct to be treated separately. There is only one true species of *Andromeda*, and that is *A. polifolia*, a widely distributed and variable evergreen. Two other valuable evergreens (often known as *Andromeda*

described below are comparatively new to this country. They promise to be hardy, and they are not only beautiful because of their flowers, but also for the brilliant red or yellow colour the foliage acquires in autumn.

In regard to the cultivation of the *Andromedas* and its allies, the leading points to be observed

grandiflora and *minima* refer to variations in the size of the flowers. In spite of these differences in detail this charming little shrub has always a well-marked individuality, and is quite distinct from anything else.

ENKIANTHUS.

E. campanulatus.—A very pretty plant, native

of Northern Japan, and oftenest noted in the neighbourhood of Hakodate; it was from that district that it was first sent to this country by Mr. Maries. It is a shrub with slender branches covered with a light brown bark; the leaves, crowded at the tips of the shoots, are each 1½ inches to 2 inches long and ovate or oblong in outline, the margin set with small teeth. The flowers are campanulate, produced in a pendulous cluster, each flower one-third of an inch in diameter and of a pale rose-red colour, with three darker lines on each of the five sections of the corolla.

E. CERNUS.—A little-known species only recently introduced from Japan, where it is said to be a bush 6 feet to 8 feet high. It has an obovate or wedge-shaped leaf which is toothed. The racemes are terminal, drooping, the flowers reddish, campanulate, two-thirds of a five-lobed. Beside the name of Andromeda and the one here given it has been called *Meisteria cernua*.

E. JAPONICA.—A rare, but very desirable species, which was first discovered by Sir Rutherford Alcock near Nagasaki, Japan, in 1859, and afterwards introduced by Messrs. Standish. It is a slender shrub, the leaves borne at the tips of the branches only, the branches themselves usually having a verticillate arrangement. The leaf is 1½ inches to 2 inches long, pointed and toothed, turning to a beautiful deep orange colour before falling in autumn. The pendent flowers are pure white, globose, one-third of an inch in diameter, and contracted to a much narrower mouth than in *E. campanulata*.

LYONIA.

L. FANCULATA.—A deciduous shrub, varying from 3 feet to 10 feet in height, which is widely spread over the eastern side of North America, whence it was introduced to this country in 1748. It is quite hardy and grows freely. The leaves are Prickly-like, tapering towards both ends, and, like the young wood, are covered more or less with down. The flowers, small and white, almost globular, are produced freely on short racemes. Arising no doubt from its wide natural distribution and the consequent variability of its foliage and other parts, it has been described and figured under many different names, the best known of which is *Lyonia ligustrina*.

OXYDENDRON.

O. ARBOREUM (*Sorrel Tree*).—This is the only species dealt with in these notes which in England reaches the dimensions of a tree. In North America, or rather the South-eastern United States, it grows from 15 feet to 40 feet high, and in exceptional instances 60 feet. The largest specimens in England that I have seen are in Mr. Anthony Waterer's nursery at Knap Hill, and these, if I recollect aright, are about 20 feet high. Fortunately, however, it flowers when only small, and plants only 4 feet to 6 feet high make a very pretty display. Another point in its favour is that it blossoms in August and September, a period when its beauties are much more likely to be appreciated than if it came into bloom in April, May, and June. It is deciduous, and its leaves, often of a fine purple in autumn, are pointed, slightly toothed, and each about 5 inches long. The racemes, which are slender, branched, and from 6 inches to 10 inches long, are produced at the ends of the branches, the numerous flowers being pitcher-shaped and white. The name of Sorrel Tree has been given to it because of the pleasant acid taste of its leaves. London writing over fifty years ago, says that they were frequently used to allay thirst by the hunters in the Alleghany Mountains. The species likes moisture, and one of the points in its successful cultivation is that its roots should have a permanently cool, moist soil.

PIEGIES.

P. FLORIBUNDA.—In places where the soil is adapted to its cultivation, this species, a native of the United States, has proved to be a charming shrub. Of dwarfer growth than *P. japonica*, it has not the varied graceful outline of that species,

but as a neat, compact bush there is no evergreen superior to it. It is not often seen more than 4 feet to 5 feet high. The leaves are dark green and measure each 1½ inches to 2 inches in length. The racemes (which are now, in October, formed, although the flowers do not open until next spring) are terminal and branching, and carry numerous pendent white flowers. The flowers of this *Pieris* are not so liable to damage by severe weather as those of *P. japonica*. It was introduced to this country in 1812.

P. FORMOSA.—As far north as London this species is too tender to be accounted of any value as a hardy shrub to those readers of THE GARDEN who live in Central Hall places with a similar climate it deserves the strongest recommendation. In colder localities it might be given the shelter of a cool, unheated structure, a consideration its beauty fully entitles it to. It is a shrub of *Arbutus*-like appearance, its large leathery leaves being each 4 inches long, 1½ inches wide, slightly toothed, very deep green when old, of a reddish colour when young. The flowers, which are of a porcelain-white, are produced in a cluster of erect branching racemes terminating the branch. A fine cluster will measure 6 inches high and as much in diameter. The flower is pendent and almost globular, being contracted at the apex into quite a small opening. A native of the Himalayas.

P. JAPONICA.—For many years past this species has been exhibited in splendid condition by Mr. Anthony Waterer at the spring meetings of the Royal Horticultural Society. It is without doubt one of the most beautiful evergreen shrubs introduced to this country. Its graceful habit and handsome foliage would in themselves make it well worth cultivation. Of its beauty when in bloom no further testimony is needed than that furnished by the illustration. It is on the whole the most desirable of all this section of the Heath family. Being of comparatively slow growth and always keeping a shapely form, it needs no interference from the pruner's knife. I have never seen it except as a shrub more than 6 feet high, but Professor Sargent tells us that in the temple park of Nara, Japan, there are trees of it at least 30 feet high, with well-formed trunks 6 feet to 8 feet in length. It leaves are firm in texture and glossy green. The flowers are brown and pink, the ends of the shoot in clusters of drooping racemes, which are from 2 inches to 5 inches long. The flower is pitcher-shaped and white. The species deserves more extended cultivation than it obtains at present. The variety *variegata* is a valuable fine foliaged plant, its variegation being much better defined and clearer than is the case with many shrubs that receive that name. *P. japonica*, as its name implies, is a native of Japan. It was originally described as *Andromeda japonica* by Thunberg in 1784.

P. MARIANA.—A deciduous shrub 2 feet to 4 feet high, with leaves each 1 inch to 3 inches long and entire. The flowers, which are produced on separate leafless branches, are pendent, waxy-like in texture, and of a pure or sometimes pinkish white. The leaves, which are said to be poisonous to lambs and calves, turn a brilliant red before falling. It was introduced by Peter Collinson in 1732, and is a native of the Eastern United States from New England southwards to Florida.

P. NITIDA is a tender evergreen, native of Florida and other Southern United States. The leaves are thick and leathery, oval, quite entire, and of a shining green. The flowers are produced in axillary clusters near the ends of the branches. The corolla is flesh coloured, somewhat tubular, one-third of an inch long, contracted at the mouth, but with five small divergent lobes. The segments of the calyx are long and narrow and of a dark red colour. The species is suitable for the southwestern counties. It was introduced in 1765. There is a deeper coloured variety known as *rubra*.

P. OVALIFOLIA.—A species from Nepal, and thrives better in Cornwall than in the London district. The leaves are downy in a young state and have always a more or less reddish purple tinge; the flowers pinkish white, downy, like the

young leaves, and produced freely on leafy rachemes. Introduced in 1825.

ZENOBIA.

Z. SPECIOSA.—This beautiful shrub is a native of the Southern United States, where it is most frequently found in boggy places. It is not often more than 4 feet high, and about as much in diameter. It is nearly or quite deciduous, but in very mild seasons will retain a proportion of its foliage till the new leaves break out. The leaves are a couple of inches long, smooth, and green on both surfaces. The flowers are produced in axillary clusters on the upper part of the stems in May and June, and hang from them in the greatest profusion. The blossom is cup-shaped, white, and about one-third of an inch across, very much resembling a Lily of the Valley.

VAR. PULVERELLA is the *Andromeda dealbata* or *A. pulverulenta* of gardens. It is one of the loveliest American shrubs that our gardens possess. The leaves are like those of the type in size and shape, but instead of being green they are, when young especially, of a beautiful glaucous colour. This colour extends also to the seed vessels. The flowers are like those of the ordinary *Z. speciosa*, except that they are of a more snowy white, but even without them this variety might rank as a valuable shrub on account of its foliage. Both these shrubs are perfectly hardy in the southern parts of the kingdom, and as they survive the New England winters, would probably do so in almost any part of Britain. It can be propagated by seed, cuttings, or layers. The two latter methods are necessary for the glaucous variety, as it only partially comes true from seed.

W. J. BEAN.

BRITISH OAKS.

In the seventh edition of the "Encyclopaedia Britannica," in vol. xvii. at page 782, subject "Planting," the author states that

"There are two species of Oak, as including two species or subspecies, the stately English or mossy common Oak, *Quercus Robur* *petraea*, "*Arb. Brit.*" and the stalkless-ribbed, or less common Oak, *Quercus Robur* *sessiliflora*, "*Arb. Brit.*" The latter species or sub-species is found to grow more erect and more rapidly than the other, more particularly if the soil be good and deep. The two sorts are found indiscriminately mixed together in many parts of England, as in Tintern Park, in the Forest of Dean, and in the Forest of Sissinghurst; in other places the species exclusively prevail, as at Tintern Park, near Hereford, where there are some of the largest Oaks in England, on a deep, loamy soil, and almost all Q. R. *sessiliflora*.

Nearly half a century has elapsed since, acting on the information contained in this quotation, I send an order to one of the great nurseries for twenty-five young plants of *Quercus Robur* *sessiliflora*, and having set them in short rows in a plantation in the corner of a field with some other young forest trees, I watched for the appearance of the leaves in the following spring, and failed to perceive any difference between them and those of the other young Oaks which grew alongside of them. My doubt as to their genuineness was confirmed when, many years later, they began to produce acorns of the same form and character as those produced on the other trees. I stated my case to a great authority on trees, but failed to get a satisfactory reply. All that I could learn was that the Oak of that district varied much in character in individual specimens, but that there was but one recognised species. Hence arises my first question.

Are there now any districts in the British Islands in which *Quercus Robur* *sessiliflora* is recognised and cultivated under that name? Among the Oaks which have at various periods been imported into this country there are many *sessiliflora* varieties, the Lorraine, or Turkey Oak, as it is often called, being a well-known example, but its timber is liable to become worm-eaten when housed, and soon decays when exposed to the vicissitudes of an English climate.

My next question relates to the colour of the Oak used in England in our ecclesiastical build-

ings during the seventeenth and three preceding centuries. I have some specimens of Oak taken from ecclesiastical buildings during that long period. The dates of most of them are conjectural only, but one of them, which is evidently of the latest date, has in the middle of it deeply cut the figures 1671. Now in these samples it is remarkable that the colour is the same in each, a rich ruddy brown. Of later samples, the earliest that I have is incised thus: J 1717 B, evidently the name of the rector—John Brumfield, with the date of the repairs effected by him, but the ruddy tint so conspicuous in the older samples no longer appears in this, which closely resembles the Oak timber commonly used at the present time. It is not, however, the colour only of these ancient samples of Oak that demands our attention. So straight in the grain are the moulded portions of what had formed the roof of the south aisle of our parish church, and which bore the date 1671, that had they been of deal they would not have retained a better form.

Here, then, is my second question: Was the wood used by the builders in the earlier period the British *Quercus sessiliflora*? B. S.

Wing Rectory, Oakham.

Berberis vulgaris.—It would be difficult to conceive a more shrubby fruiting and growing shrub than this. Nothing can be more lovely than a big bush of the crimson-fruited form growing on the turf. In the pleasure grounds here there is a big bush growing thus, and for several weeks it has been quite a sight. When in bloom it fills the air for a long distance with its perfume. At this season it is most valuable for cutting from, the long sprays full of berries being useful for house or church embellishment. I have some sprays that have been in a vase a fortnight and are still quite good.—DORSET.

Oriental Vines.—The Vine is at times grown for its foliage, and I do not know of any varieties more useful than *Vitis purpurea* and the Parsley-leaved *V.* *cordata*. *V. purpurea* at this season is really beautiful and well worth growing for its handsomely colored foliage. It is also known as the Claret Vine, and I have heard it called the Purple Vine. The Parsley-leaved Vine is less brilliant, but the foliage at this season is beautiful, and all through the summer the leaves are of great value for decoration. If only used to cover buildings on a warm aspect, the Vines are most beautiful and soon cover a large space. Another less known variety—*Vitis Coignettiae*—is very beautiful, the bright red tints being much earlier than in the varieties named.—G. W.

Lilac Millo, Fernande Vigier.—In the French journal *Le Jardin* is an illustration of this Lilac. It is described as very vigorous and free-flowering, with large heads of blossoms, which are borne in twos, or sometimes in fours, from the end of each branch; the flowers are very sweet-scented and remain for some days half open before fully expanding, their colour being dead white with a suspicion of cream, while the stamens and pistil are not at all conspicuous. The flowering season is relatively very long. This variety of Lilac was raised by M. Leconte, nurseryman, of Louveciennes, in the department Seine-et-Oise, as long ago as 1882, and as it was not put into commerce till 1894, ample time was allowed for its merits to be proved. As white flowers are always the more popular, should this variety bear out the high opinions above expressed of it, we shall also doubtless see it largely grown in this country.—T.

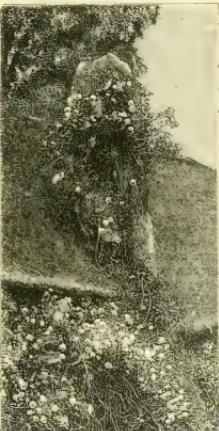
Blue Hydrangeas.—The beautiful illustration of the fine plant of *Hydrangea Hortensis* (p. 256) gives an excellent idea of the decorative value of the giant bushes that flourish in such numbers in the counties of Devon and Cornwall. I doubt, however, the correctness of the theory advanced; that shade is responsible for the blue tint observable in the blossoms of many plants. There are apparently conditions of soil which produce this hue in shadeless situations. Some years ago I saw growing on the edge of the cliff overlooking Start Bay, S. Devon, where no shade ever fell upon them other than the shadows of

clouds, a line of Hydrangeas, some bushes of which flowered of almost Forget-me-not blue, certainly the deepest colour I have ever seen in these flowers. In shady spots, where deciduous trees arch above sheltered drive or secluded dell, one may mark the billowy masses of the great Hydrangeas—wave after wave of palest blue—that in the moonlight become of a shimmering white, but rarely of the deeper tint, unless mingled with a ruddy stain, which forms a purplish blue that cannot approach the beauty of the pure colour.—S. W. F.

ROSE GARDEN.

CLIMBING ROSES.

AMONG the many beautiful pictures afforded by the English country-side few can be found more charming than the little peeps of harmonious colouring and form oftentimes met with in sequestered villages—sweet floral vignettes where, as in the accompanying illustration, white Roses climb at will beneath the over-hanging thatched eaves, clambering up the



Roses on a cottage. Engraved for THE GARDEN from a photograph sent by Mr. S. W. Fitzherbert, Torquay.

very chimney and garlanding it with a wreath of blossom, out of which on still evenings the blue smoke rises upward, becoming filmer as it ascends, and finally losing itself amid the leafage of the overshadowing Elm. In the spring some of the cottages are embowered in Great Lilac bushes that scent the valley, while the Laburnum's golden shower hangs above the winding road. The gardens are odoriferous with old-fashioned flowers, for the cottager loves the sweet-smelling blossoms. "Across the porch the Jasmine twines," the tall Madonna Lilies hold aloft their snowy chalices. White Pinks, double Rocketts, and Stocks in their respective seasons breathe their fragrance on the air, while the roadside bank, sprinkled with wild Hyacinth and Oxlalis in the spring, becomes later on spangled with the delicate white tracery of the Woodruff, whose faint essence is but the suggestion of a perfume. Here, against a whitewashed wall,

the single Hollyhock glows; here a Myrtle in flower is trained around a lattice window; here the Passion Flower has draped a gable with a veil of greenery, studded in the summer with starry blossoms, and in the chill autumnal days with innumerable fruits of golden orange that gleam like lamps amid the dark foliage. In the winter a cottage that has been sombre while others have been bright becomes a pageant of crimson and gold, for it is covered to the eaves with Cotoneaster, microphylla and *Jasminum nudiflorum*, the bright yellow of the latter's flowers standing out in vivid contrast to the countless red berries of the Cotoneaster.

Unfortunately for the artistic eye, ideal thatched cottages and old-world villages untouched by the hand of change become year by year more difficult to discover. Slate is surely and not slowly replacing thatch, the picturesque whitewashed walls are giving way to less attractive bricks, and crude glazed porches, with abominations in the way of stained glass, are allowed to banish the sense of rest and aloofness that was the chief charm to the lover of the beautiful.

S. W. F.

TEA AND HYBRID TEA ROSES UNDER GLASS.

WITH the recent wet weather and consequent damage to the numerous buds which appear so freely outdoors, but, alas, seldom develop perfectly, upon the plants of these lovely Roses, one is forcibly reminded of the value of a glass structure wherein to obtain a plentiful supply of Roses during the late autumn, winter, and spring months. A very ordinary greenhouse fitted with hot-water pipes will well repay those who are in a position to erect such a house, for the beautifully clean blossoms which a gentle heat will develop are very valuable at this time of year and during the dull days of winter. The best results are doubtless obtained by adopting the planting-out system. There is less trouble arising from mildew, and the growth the plants will make would astonish anyone who has never tried this plan of growing Tea Roses. I will give for the information of your readers a short description of some houses I recently saw in a commercial establishment where the Roses are all planted out for market purposes. A range of houses upwards of 150 feet each in length was erected upon a piece of meadow land. There were no partitions between the houses, but they were so fitted that oiled calico could be stretched between each house if desired to accelerate the growth of any particular house. The land, as I have said, was pasture and lay rather high. The land was trenchled about 2½ feet deep and all the turf worked in with the trenching. The only manure used in the trenching was a fair proportion of bone-meal. The loam was of a soft, silky nature and rather stony. When all was finished, the plants (which were on seedling Brier) were put out, and when I saw them they had been planted about three years, and such growth they had made I have never seen equalled, huge bushes 3 feet to 4 feet and as much through, with growth in some instances as thick as one's little finger. These plants were forced, so that a good crop could be obtained during the early months of the year. They were mulched now and then with short, well-decayed manure, and when water was required a good soaking was given. During the summer they were given a rest of about one month. The growths were thinned out, and a thorough ripening of the wood was the result. After this month of rest gentle heat was given,

and the result was a quantity of fine flowers in September and October, which were found to be much in request. No side air was ever given; therefore very little mildew was seen. If flowers were not always wanted, they were cut off all the same, which induced new strong growths. Even in a small way this method of growing Roses would be found of considerable value. It is oftentimes pitiable to see Roses in pots grown in a greenhouse containing mixed subjects. I would recommend that a house be devoted entirely to these lovely Tea and H.T. Roses. Have the top lights removable, so that the beneficial rains and dew can be given when required. Commence by planting good strong plants, and, as I said before, grafted or budded on seedling Briar. Some standards or half-standards would make a little diversity, while some of the climbing varieties would soon cover the upright posts or trained on to poles, but on no account have any on the roof to exclude the sunlight.

I append a list of some varieties suitable for this method of culture: Niphéos, Mme. Lombard, Catherine Mermet, Bridesmaid, The Bride, Papa Gontier, Kaiserin Augusta Victoria, Sunset, Mme. Hoste, Perle des Jardins, Anna Olivier, Souvenir d'un Ami, The Meteor, Maman Cochet, Mme. Abel Chatenay, Francis Dubreuil, Marie van Houtte, Clara Watson, Mme. de Watteville, La France, Duchess of Albany, Mrs. N. J. Grant, Caroline Testout and Augustine Guiminoiseau. Climbers or as standards: Maréchal Niel, Bouquet d'Or, Mme. Chauvry, Mme. Berard, Gustave Regis, W. A. Richardson, l'Ideal, Mme. P. Cochet, Gloire de Dijon, Mme. Eugène Verdier, Henriette de Beauveau, and Alister Stella Gray.

PHILOMEL.

BOURBON ROSES.

"PHILOMEL" does well to recommend these for autumnal flowering, and it is gratifying to find that the oldest is still the best. We have few Roses that can yield such rich harvests of Roses throughout the autumn as the old Souvenir de la Malmaison. The Bourbons have but one back—their colour is fresh rather than rich and full, as in the Teas or the sweetest Perpetuals. It is hardly worth while to run Bourbons abreast of the more fragrant Roses during the height of the season; hence we often cut most of our Bourbons back more or less in June before or during the flowering period. This practice caused a rapid multiplication of flowering shoots for the autumnal months, and had also the additional merit of keeping the plants at home. I never cared much for Acidalis or Sir Joseph Paxton, their form and colour being against them as well as their scent, which can only be described as very pronounced Bourbon, and we have nothing like it among Roses of any other class. Both, however—probably from the extreme smoothness of their leaves—often thrive better amid the smoke and soot of towns than any other Rose. Baron Gonella is one of the best in form, colour, constitution—so rich in colour as in some stages to remind one of the very exquisite Coup d'Hebe, though the Hybrid China has it a long way in regard to fragrance; but then we cannot get the latter to bloom through the autumn.

Crimson Bodmer makes a splendid margin around the Souvenir de la Malmaison, and is probably a seedling from that nearest ally of the China among Bourbons, the very brilliant, semi-double, crimson China-looking Rose, Gloire des Roseraies.

I recommend the summer pruning of Bourbons the more readily as their mid-summer blossoms are hardly worth cutting, while malformed Malmaisons or other Bourbons are quite exceptional throughout the autumnal months. During dry seasons even beds, borders or masses of Bourbon Roses, well watered, mulched and fed, will yield

enormous harvests of buds and blossoms. There is one point to be borne in mind about Bourbons or other Roses which are forced, through pruning or culture, to bloom through late autumn or early winter—namely, viz., that the later they bloom the more liable to injury from cold. Hence it is useful to give Bourbons more or less protection during the winter. Should many of the shoots be injured by frost, Bourbons even then on own roots seldom fail to throw up sufficient shoots from the roots to renew their youth, and grow and bloom with greater vigour and higher beauty.

D. T. F.

ROSE NOTES.

We still have a few Roses with us and are likely to for some few weeks, although the recent gales and heavy rains have spoilt so many, almost all, in fact, that were not in very sheltered positions. At one time there was every prospect of a good show of autumnal Roses, more especially among the Hybrid Teas and the true Teas and Noisettes. Good as several of the newer introductions are, it is on the older and tried varieties that we depend for late flowers. Souvenir de la Malmaison, Safrano, Ophirie, the old Blush China and the old Crimso-n, Souvenir d'un Ami and General Jacquemini, not were introduced considerably more than forty years ago, and yet they rank among our best late bloomers. Another decade and a half does not give us many additions, the chief being Alfred Columb, C. Lefebvre, Duchesse de Morny, Mme. V. Verdier, Sénateur Vaisse and La France. I could name a few good ones of the last ten years, the best six perhaps being Dr. Grill, G. Nabonnand, Viscountess Folkestone, Caroline Testout, Augustine Guiminoiseau and Mrs. John Laing. When we consider the enormous number of new varieties introduced during the last forty or even twenty years, we might expect a greater number of these to surpass our old favourites.

Every season we find a few Roses standing out very conspicuously from their fellows at the exhibitions, and although too many of them do not retain such prominence, they deserve some mention. Maman Cochet is the best new Tea we have for exhibition, and is also grand as a Rose for general culture, but G. Nabonnand is not sufficiently heavy and full to find a place in the exhibitor's box, and consequently, although distributed seven years ago, is strangely little known. We have no better grove or more distinct colour than this. The perfume cannot be beaten, the form is good, and if tied to one Tea Rose for garden decoration my preference would be for G. Nabonnand. Maman Cochet is a magnificent Rose in every way, and won the silver medal as the best Tea or Noisette in the exhibition both at the early (Reading) and late (Ulverstone) shows of the National Rose Society during the past summer. The form and size are simply perfect, and the colour a tender carmine, flushed with salmon-yellow. G. Nabonnand is somewhat after the same colours, but with more of the salmon shade. I am sure the latter will be one of our most popular Roses when better known. Mons. Nabonnand has given us some grand Roses in this, l'Ideal, Francia Kruger, Comtesse de Panisse, and others. Even with better facilities than ever a Continental Rose of real merit does not become widely known so soon as was the case ten years ago. Our Continental friends have themselves to thank for this, their glowing descriptions of novelties having caused a large number of our home growers to cease purchasing until the few leading rosarians on this side have given them a thorough trial.

It has been pleasing to see how uniformly the introduction of the silver medal Roses of this

season have been spread over the last thirty years—Duchesse de Morny, C. Mermet, A. K. Williams, Innocente Pirola, Victor Hugo, Her Majesty, The Bride, Mme. Hoste, K. Augusta Victoria, and Maman Cochet. The last named and Her Majes'y secured two each out of the twelve offered by the N.R.S. at their own exhibitions at Reading, the Crystal Palace, and Ulverstone. They have both been very conspicuous at all Rose shows this season. I did not expect to find so grand a show at Reading after the very indifferent manner Roses came on in our own and neighbouring grounds. The Teas were perhaps the best of this season, while the whole of the blooms were good, if not of startling quality. The strength of the competition was also a surprise; in many classes there were from ten to twenty stands. On the contrary, the classes at the metropolitan show at the Crystal Palace were not so well filled, and although many more in number, there was very little difference in the total of blooms staged. Ulverstone was even a bigger surprise than Reading. At this meeting we saw some grandly coloured H. Perpetuals from Yorkshire, from Ireland, and from Scotland, the competition in the chief trade classes being very keen. I cannot help feeling it is rather a mistake to select such an out-of-the-way place as Ulverstone for a northern show. The accommodation and arrangements were good, but the place is difficult of access to almost all growers of note.

New Roses were not particularly good at either show, and if we do not find them at these gatherings it is hard to believe in much merit. Muriel Grahame is very promising, but a little too nearly like a faintly-coloured The Bride or a very pale Catherine Mermet. Several promising seedlings came from Newtonards. A sport from Mrs. George Dickson, and named Mrs. Rumsey, was put up at the Crystal Palace, it was a very distinct colour—clear and bright flesh-rose, almost carmine, with a deeper centre. This was staged by Mr. W. Rumsey, of Waltham Cross, in whose grounds we have since seen it growing in large numbers. It was not considered large or heavy enough for exhibition at the metropolitan show, but when I saw the flowers in August—a time when most other varieties in the Hybrid Perpetual section were past and dreadfully eaten up by mildew—Mrs. Rumsey was in grand form. Many good exhibition blooms might have been culled then. As a garden Rose it is most useful. The flowers are clear and bright, the foliage clean and mildew-proof, and the whole plant a perfect picture of health. Some of the maidens were carrying from six to twelve good flowers, each one borne upon long stems. Not only were such varieties as Ulrich Brunner, side by side with it, eaten up by mildew, but Her Majesty, Queen of Queens and others notorious for their tendency to this disease were also in juxtaposition without in the least affecting Mrs. Rumsey. In its colour it is undoubtedly one of the very best garden Roses we have, and I am looking forward to its introduction with much pleasure.

Insects have not been worse than usual with me, but during the middle of July and early August mildew was a great nuisance. Just before the dry weather broke up this disease suddenly disappeared, and from then until the time of penning these notes the foliage has been very clean and healthy. RIDGEWOOD.

The Dutch hoe.—A very great percentage of young men employed in gardens have but a poor idea of using the Dutch hoe. In nothing is the truth of the old adage "the more haste the less

speed" better illustrated than in this simple, but important operation. Many, in order to get through the allotted task in a minimum of time, put on too much speed, leaving the disturbed surface in small mounds, which completely cover colonies of small seedling weeds, these again appearing as vigorous as ever directly a moderate rain comes. A careful man who bottoms his weeds, and by a toss of the hoe turns the larger ones topsy-turvy and exposes them to the force of wind and sun, is worth three of the former slovenly class, even though he is proportionately longer in getting through the work, the proof being in the length of time the borders or quarters remain clean after. Of course, in bad cases of large weed accumulation, the draw hoe must be brought into action, afterwards using a rough rake. This I find pays in the end.—C. C. D.

ORCHIDS.

CYPRIPEDIUMS AT CAMBRIDGE LODGE.

THOROUGHLY well as all the Orchids are cultivated in this collection, the Cypripediums must certainly take first rank, for these include magnificently grown specimens, many of them rare. The whole of one side of a lean-to house is taken up with large specimen plants that apparently in some cases are rarely out of bloom. For instance, there is a piece of *C. Sedoides* cardinalis upwards of 3 feet across in the rudest health and covered with flower-spikes, while equally good are *C. Roezlii* and its fine variety *Hartwegii*. A beautiful pair of plants are *C. Charles Canham*, the distinct and useful hybrid raised from *C. villosum* crossed with *C. superbiens*, and *C. Mrs. Canham* from the reverse cross. A beautiful specimen of *C. Morganiae* also attracts attention, the foliage being broad and extremely thick, the plant about 18 inches across. The quaint *C. Pearcei*, or, as it is often called, *C. carinatum*, is here quite at home, great vigorous root-stocks pushing out in all directions, each with its quota of the characteristic narrow foliage. In many places this plant is easily enough grown, but a difficulty is found in flowering it, and as Mr. Chapman's mode of culture is simple in the extreme, those who find this cannot do better than follow it. The plants are well potted in the first instance and not again disturbed until it is absolutely necessary. They are, in fact, allowed to get quite pot-bound, and very liberal supplies of water given in order to make up for any deficiency in the compost. This latter is really the most important point. Keep the roots healthy, so that they will take abundant supplies of moisture all the year round. Another grand specimen is *C. Harrisianum*. A fine batch of *C. Charlworthii* may be seen in another house, considerable variety existing among the plants. The older and even more beautiful *C. Spicernianum* is also doing well, and among a large number of plants not a single poor form was to be seen. Apropos of the former, it is noteworthy that the fine colour displayed on the dorsal sepal of some of the better forms often tones down after the flowers have been open some time. Some grand forms of *C. insignie* are included in this collection, but not many of these were open. The rare Cambridge Lodge variety was certainly far superior to any other, and so thoroughly distinct as to almost warrant specific rank. The dorsal sepal is pure white at the apex, below, a very pretty bright green, but in place of the usual spots are very large and distinct blotches, those on the upper portion being bright purple, while those below are purplish brown.

The pretty hybrid *C. Arthurianum* was finely flowered and resembles its pollen parent in the drooping petals, while the contour of the flower generally and the habit come nearer the seed-bear, viz., *C. insignie*. Among the newer hybrids a magnificent form named *C. Lachneum* at once attracts attention. The flower is of splendid build, clear outline, yet with graceful and showy. I am not quite sure of the parentage, but it certainly is related to *C. superbiens*, and must be reckoned as one of the very finest Cypripedies in existence. The dorsal sepal is broad at the base, pointed at the apex, pure white, lined with bright green. The petals are green and white with a suffusion of warm rose-purple and heavily spotted with deep brown. The pouch is reddish-purple in front, shading to green, and on the inner side of the opening it is heavily spotted with reddish-brown. There is also a very fine variety of *C. enfieldense* raised here from *C. Hookericæ volenteum* and *C. Lawrenceanum* called *Hebe*; it is superior to the type, much darker and more heavily spotted. The lovely new *C. Chapmani*, noted by "Stellie" on p. 262, was certainly not overrated, for it is a superb hybrid in every way, the foliage as well as the flowers being strikingly ornamental. The very rare *C. tessellatum* porphyrum is here represented by four healthy and thriving plants, and *C. Mrs. F. L. Ames* is also good. *C. Indra*, a hybrid raised at Cambridge Lodge between *C. callosum* and *C. villosum*, the pretty *C. Lawrebeli*, which, as its name implies, is the progeny of *C. Lawrenceanum* and *C. bellatulum*, *C. Asburtoniae expansum* and *C. tonsum* are all well flowered. In addition, there are a great many hybrids raised in the collection and showing flower, and it would be difficult to find a more promising lot. The greatest care has been taken to use only the best of varieties for parents, with the natural consequence that the hybrids are all good in their respective classes. The bellatulum set are really beautiful in foliage, and it is remarkable from what tiny first growths these plants spring. One is only about an inch across, and from it proceeds a beautiful growth with fine broad foliage and large enough to flower.

No doubt the house they are growing in suits them well, but there are also unmistakable marks of carefully considered and skilful culture. One point is very evident, and that is, that the plants are not disturbed more than is really necessary, small plants even being given a good shift and the best of material used. Careful attention to watering under this system is obviously necessary, but the way the plants push out into the compost is ample proof of the wisdom of the proceeding. Hybridising is, of course, still going on, and there are hundreds of smaller seedlings in every stage of development, and it is quite plain that in the race for novelties of merit in this beautiful family Mr. R. J. Measures' collection takes a leading position.

Lælia Dayana delicata.—This was flower ing recently at Cambridge Lodge among a fine lot of plants of the typical form. In habit, manner of flowering and shape of the blooms it is identical with the type, but the sepals and petals are pure white, forming a chaste backing to the lip, which has several radiating lines of deep crimson-purple, the side lobes being similar in colour.

Cymbidium cyperifolium.—A large plant of this rare species with a healthy, strong spike of flowers was recently in flower at Cambridge Lodge. The flowers, although not nearly so large as in colour and form very much like those of *C. Tracyanum*, the front of the lip being white, with crimson spots, the sepals and petals very pale green, the spots on these occurring in lines extending

over the whole length of the segments. The bulbs resemble those of *giganteum*, but are not half the size, while the foliage is narrow and Sedge-like. It appears to delight in a cool system of growth, the roots being given a fairly large pot and substantial compost.

Cattleya labiata.—Among about 200 plants of this fine *Cattleya* I recently noted many very fine forms, one especially striking variety having a broad and very well displayed lip, bright crimson in front, with radiating lines of yellow and rose, the sepals and petals being bright rose. All of those in flower were remarkable for their breadth of sepal and size generally.—R.

Miltonia Regnali.—The flowers of this Miltonia are distinct and handsome, occurring on erect spikes, bearing about half a dozen on each. These are each over 2 inches across, the sepals and petals white, the lip rose purple, veined with crimson-purple, the centre orange-yellow. It delights in a fairly high temperature while growing, plenty of atmospheric moisture, and only shade if flowers are to be produced. The plants may be grown in equal parts of peat and moss over good drainage in pots large enough to allow a narrow margin all round. The roots ought never to become really dry, less water of course being required during the winter. The blossoms last a very long time in good condition.

Masdevallia tovarensis.—The pretty pure white blossoms of this useful species are just opening, and where a good stock of plants is grown, it keeps up a long succession of flowers. Through plentiful and cheap, this *Masdevallia* is worth every care and may be easily grown in a cool house, provided the winter temperatures does not drop below 50°. It may be grown in small pots in the usual compost advised for *Masdevallias*, only a thin layer being required. The roots must always be kept moist, especially during active growth, and the foliage free from insects. The spikes ought not to be cut, as these produce flowers year after year until exhausted. *M. tovarensis* comes from Tovar, in New Grenada, and first flowered in this country in 1865.

Miltonia Moreliana atro-purpurea.—This is one of the best forms of this variable Orchid and worthy of the most careful attention. The blossoms are large, the sepals and petals of a deep rich crimson-purple, the lip lighter in colour, with radiating lines of a deeper hue. Not the least of its recommendations is the length of time the blossoms last in good condition, a plant I recently noted having the blossoms of good colour, though it had been in bloom over seven weeks. Like *M. spectabilis*, of which *Moreliana* is only a variety, it should be grown in a nice light position in the Cattleya house and only shaded sufficiently to prevent injury to the foliage. Plenty of water must be given while growing, and even in winter the roots must not be dry for any length of time.—R.

Lælio-Cattleya corbuliensis.—This is a very pretty bi-generic hybrid, the result of crossing *Lælia pumila* with *Cattleya Lodigesii*, and a nice plant of it is now in flower at Cambridge Lodge. In habit it seems intermediate between its parents, and the flowers occur several together on the spike. The sepals and petals are gracefully recurved and show a fine outline. In colour they are of a rose tint, this being repeated on the side lobes of the lip. The latter are rich crimson in front with crimson, the centre lobe is marginally in front, with a yellow throat, making with the other segments a very bright and telling bit of colour. It is grown at Cambridge Lodge in the same house as *Lælia purpurata*, which apparently suits it well.

Braessavola acutolia.—The narrow whitish segments of the species give it a peculiar appearance, the blossoms apparently proceeding from the centre of the leaf, but really at its base on the side of the insignificant stem. The lip is broad and heart-shaped, pure white in front and having a few faint lines of rose in the throat. In baskets suspended from the roof of the Cattleye

house or on large blocks this species will be found of the easiest culture. It requires a quite distinct resting and growing season, and during the latter is quite safe in a temperature of about 50° if kept on the dry side, as it should be. It is one of the best of the *Brassavolas*, a native of Central America, and was introduced in 1852.

GARDEN FLORA.

PLATE 1088.

THE GENUS PRUNUS.

WITH A COLOURED PLATE OF P. AMYGDALUS
VAR. MACROCOPA.²⁸

BENTHAM AND HOOKER in the "Genera Plantarum" united under *Prunus* the whole of the species which had at an earlier date been known under one or other of the following generic names: *Amygdalus*, *Persica*, *Armeniaca*, *Prunus*, *Cerasus*, *Padus*, and *Lauro-Cerasus*. This arrangement, which was necessary from the fact that no well-defined line could be drawn between them, has naturally resulted in some confusion in nursery and garden nomenclature. The older names of *Persica*, *Cerasus*, &c., are still in general use, and are likely to long remain so, although the newer species, which have appeared since the wider interpretation of "*Prunus*" was introduced, are mostly named and figured in accordance with it. This, of course, makes the garden nomenclature more confused, and we can see in consequence two Apricots, may be, growing side by side, the older one called *Armeniaca*, the newer one *Prunus*. In the following notes the whole of the species dealt with are considered as *Prunus* and are arranged alphabetically. But it will be of some value perhaps to first give a list showing the section to which each belongs and the synonym (if it has one) in most general use:—

THE ALMONDS AND PEACHES.—*Amygdalus* (INCLUDING *PERSICA*).

P. Amygdalus (*Amygdalus communis*), *P. Davidianna*, *P. incisa*, *P. nana*, *P. orientalis* (*Amygdalus armeniaca*), *P. Persica* (*Persica vulgaris*), *P. Simoni*.

THE APRICOTS.—*ARMENIACA*.

P. Armeniaca (*Armeniaca vulgaris*), *P. brigantica*, *P. dasycarpa*, *P. Mume* (*Prunus Myrobalana fl. rosinae*), *P. tomentosa*, *P. triloba* (*Amygdalus Lindleyi*).

THE PLUMS.—*PRUNUS*.

P. alleghaniensis, *P. americana*, *P. angustifolia* (*Prunus cerasifera*), *P. cerasifera* (*Prunus Myrobalana*), *P. cerasifera* var. *atropurpurea* (*Prunus Pissardi*), *P. communis* (*Prunus domestica*), *P. communis* var. *prunelliana* (*Prunus economicus*), *P. divaricata*, *P. insititia*, *P. spinosa* (*Prunus fruticiana*), *P. Watsonii*.

THE CHERRIES.—*CERASUS*.

P. acida (*Cerasus Caproniana*), *P. Avium* (*Cerasus domestica*), *P. Cerasus* (*Cerasus vulgaris*), *P. Chamaecerasus*, *P. humilis*, *P. Jacquotemonti*, *P. japonica* (*Prunus sinensis*), *P. Maximowiczii*, *P. pendula* (*Cerasus pendula rosea*), *P. pennsylvanica*, *P. prostrata*, *P. pseudo-Cerasus* (*Cerasus Watereri*, *C. Sieboldii* *rubra*), *P. Puddu*, *P. pumila* (*Cerasus depressa*), *P. serrulata* (*C. Sibboldii*), *P. subhirtella*.

THE BIRD CHERRIES.—*PADUS*.

P. Capillin, *P. cornuta*, *P. demissa*, *P. Mahaleb* (*Cerasus Mahaleb*), *P. mollis* (*Prunus Pattisoniana*), *P. Padus*, *P. serotina*, *P. virginiana*.

²⁸ Drawn for THE GARDEN by H. G. Moon in the Royal Gardens, Kew. Lithographed and printed by J. L. Goffart, successor to Guillaume Severyns.

THE LAURELS.—*LAUROCERASUS*.

P. ilicifolia (*Cerasus ilicifolia*), *P. Laurocerasus* (*Cerasus Laurocerasus*), *P. lusitanica* (*Cerasus lusitanica*).

P. ACIDA.—One of the species from which the Cherries of gardens have been derived, allied to *Cerasus*; small, dark green, shining leaves of firm texture and nearly glabrous. A variety is *semperflorens*, grown in nurseries as *Cerasus semperflorens*, of drooping habit and bearing its white flowers (sometimes double) from May to September, and often carrying flowers and fruit. A dwarf tree, usually grafted standard high.

P. ARBOREUS.—Usually a shrub from 4 feet to 6 feet high, but sometimes a small tree three or four times that height. The flowers, $\frac{1}{2}$ inch across, at first pure white changing to pink, are followed by handsome fruits, which are bluish-purple, nearly globular, and valued for preserving. Pennsylvania.

P. AMERICANA (wild Red Plum).—A handsome tree found in North America to the east of the Rocky Mountains, and one of the hardiest. It is a tree 20 feet or more high, of graceful habit, bearing at the end of April or the beginning of May many pure snowy white blossoms; fruits red or yellowish red, the species being cultivated in the United States on their account.

P. AMYGDALUS (*Amygdalus communis*, the common Almond).—One of the earliest of trees to bloom, and reaching its best before hardy trees have done more than show signs of reviving life. Like all trees flowering thus early, it ought to have some background of Holly or other evergreen, against which its flowers may be contrasted. The tree ultimately attains a height of 20 feet to 30 feet. There are several named varieties in cultivation, but none better than the finest forms of the common Almond, which varies considerably in size and colour of flower.

VAR. AMARA (Bitter Almond).—Flowers slightly larger than those of the type; petals almost white towards the tip, deepening into rose at the base.

VAR. DULCIS (Sweet Almond).—This has leaves of grey-green colour, and is one of the earliest to flower.

VAR. MACROCOPA.—This, a flowering branch of which is today the subject of the coloured plate, is a strong-growing tree with larger, broader leaves than the type; the flowers, too, which are rose-tinted white, are larger. This tree is hardy and vigorous in our country.

There are also double-flowered and pendulous varieties cultivated under names denoting these characters.

P. ANGUSTIFOLIA (Chickasaw Plum).—A North American species. It is now, however, extensively distributed over the United States, especially in the Southern Atlantic and Gulf States, occupying the margins of fields and other waste places, and was one of the first plants noticed by the early English settlers in Virginia. In Britain it is a shrub 4 feet to 6 feet high, but in America it is a small tree 15 feet to 20 feet high; the leaves lanceolate, 3 inches long; flowers in clusters of one or two pairs, white, sometimes with a creamy tint, one-third of an inch in diameter. Several excellent varieties of this Plum are grown in the United States for the bright red fruits. There are variegated forms cultivated in Europe.

P. ARMENIACA (common Apricot).—The wild type of the cultivated Apricot flowers in February or early March; its blossoms being usually of a pinkish-white, but there are varieties with deeper coloured flowers and one in which they are double. The handsome foliage is broadly ovate, smooth, and deep green. Northern China.

P. AVITIA (the Gear).—One of the species from which the fruiting Cherries have been derived. It is found wild in the British Isles and is generally a tree 20 feet to 30 feet high, whereas *P. Cerasus* is merely a shrub. It has long been grown as an ornamental tree, and there are three or four good varieties. None is more beautiful than the common double form, whose pure white flowers are borne in such profusion each spring. The var. *decumbens* is a striking tree with large leaves, some of which measure 6 inches to 8 inches

in length. The var. *nana* is a curious dwarf plant; var. *lacinata* has cut leaves; and var. *pendula* is of weeping habit. From its near allies, *P. Cerasus* and *P. acida*, the Gear possesses the following distinctive characters: the leaves are sharply toothed, pubescent on the lower surface and the petiole is long; the fruit is sweet or bitter (not acid).

P. BRIGANTICA (Briancon Apricot).—A small tree with broadly ovate, toothed leaves, thinly set with hairs on both sides; the flowers, borne in March and April on short stalks, are white tinged with pink. The yellow fruit is shaped like a small Apricot. It is a species of very limited distribution, and Loudon states that it is found wild in only two localities—one in Dauphiny, the other in Piedmont.

P. CAPOLLIN.—A native of Mexico and southwards where it ranks as a fruit tree; leaves are of a dark glossy green, narrower and longer than those of *P. serotina*, and hanging loose and pendent, as in some Willows; flowers in erect racemes, white; fruits round, dark red and like small Cherries; a tree 30 feet to 35 feet high. In France it ripens seed. It is interesting, therefore, as one of the very few trees hardy in Britain that come from south of the Isthmus of Panama.

P. CERASI (*Plums*, flowering whilst the leaf-buds are as yet mere tips of green, the leaves 2 inches long and ovate; flowers three-quarters of an inch to 1 inch in diameter, in clusters on the short twigs; tree round-headed and of spreading habit, 20 feet high. *Prunus Pissardi* is a variety of this species (var. *atropurpurea*, the purple Myrobalan). It is a variety of Persian origin and was introduced about 1850. Its white blossoms are followed by the beautiful red-purple young leaves, which attain their rich tints when just opening and in late summer reach maturity. It fruits in favourable seasons the fruits being coloured like the leaves, even when young.

P. CERASUS (*Cerasus vulgaris*, the wild Cherry).—This is a native of Britain, and one of the species from which the fruiting Cherries have been obtained. It is usually a small tree or even a shrub, bearing its pure white flowers in spring. It is the double-flowered varieties, however, that give the species its chief value in gardens. A very old and beautiful Cherry is the variety known as *persiciflora*, the flow'r's of which are double and tinged with rose. One of more recent origin is *Rhexi fl. pl.*, a variety of Continental origin, whose pure white, long-stalked flowers, borne in May, hang from the branches in great abundance. It is a small tree, and one of the most charming of all the Cherries. *P. cerasus* is frequently confounded with *P. Avium*, but besides its smaller size the leaves are toothed, glabrous or nearly so, and have short stalks; the fruit is acid.

P. CHAMUCERASUS (Siberian Cherry).—A dwarf species found in various parts of Europe. It has small oval or obovate leaves, irregularly and finely toothed, and of a dark lustrous green. The flowers are borne in short umbels on the previous year's growth, the young leaves appearing at the same time. The blossoms are white, three-quarters of an inch in diameter, and appear in May. One form of this species is represented by a tree 10 feet or more high at Kew, but, as a rule, it is only half as high. It is naturally a small rounded shrub of neat, close habit, but is mostly grown as a standard. There is a drooping variety (*pendula*) and another with variegated foliage.

P. COMMUNIS (*P. domestica*, the common Plum).—This species is believed to be the common Plum, of which the cultivated Plums have been derived, although in less degree the Bullace (*P. insititia*) and Sloe (*P. spinosa*) have each probably a share in their origin. It is most familiar in gardens as the stock on which both fruiting and flowering species of *Prunus* are worked. It has, however, some value as an ornamental tree, although there are others more desirable. It reaches a height of 15 feet to 20 feet, the flowers being white, the leaves ovate and often of a greyish tinge. Of the varieties cultivated as ornamental trees, var. *prunelliana* is perhaps the

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PRUNUS AMYGDALUS VAR. MACROCARPA

*Prunus japonica fl.-pl.**Prunus cerasifera.**Prunus communis.**Prunus Lauro-Cerasus.**Prunus acida var. semperflorens.*

most beautiful. It bears in April a great profusion of white flowers, not large individually, but so thickly borne as to cover the twigs. There is also a double-flowered form of this variety.

P. CORNUTA (Himalayan Bird Cherry).—This is the Himalayan form of P. Padus. Its leaves are as a rule larger, broader, and of stouter texture than those of our British trees; they are also distinct in having red stalks. The name refers to the horn-shaped fruits.

P. PASCHCARPA (Black Apricot).—The origin of this Apricot is uncertain, but it is most probably a hybrid produced in gardens. Loudon states that it was introduced in 1800. It is a small tree, and there is a specimen in the Kew Arboretum about 12 feet high which flowers freely almost every year early in April. Its leaves are dark glossy green, glabrous, broadly ovate and toothed, the petioles and young wood having a purplish tinge. The flowers, which are pure white, open before any of the leaves appear and show up against the dark twigs on which they are borne; each one is half an inch to three-quarters of an inch across. The fruit is purple or black, but is rarely seen in this country.

P. DAVIDIANA.—This is the earliest of all the Peaches to burst into bloom, and in favourable years it may be seen in full flower as early as January. Few more delightful trees have been introduced in recent years. Its branches are of somewhat rigid growth, the leaves lanceolate; the flowers individually 1 inch across and completely covering the shoots made the preceding year, which are frequently 2 feet along. The petals in one form (alba) are of a pure white; in the other (rubra) pink, but not so freely borne.

P. DEMISSA (the Western Choke Berry of the United States) is a form of P. virginiana, distinguished by its leaves, which are rounded or sub-cordate at the base, of thicker substance and with a more abundant and persistent pubescence. These characters appear to be due to climatal influences, as they occur in all intermediate degrees between this tree and the true P. virginiana of the Eastern United States (see notes on P. virginiana).

P. DIVARICATA.—It has been a question for many years whether the tree grown under this name can be satisfactorily distinguished from P. cerasifera. Sir Joseph Hooker keeps them separate, and has devoted a plate to each in the *Botanical Magazine*. There are several trees of each at Kew, and although both may be seen in flower at one time, P. divaricata is usually a week or a fortnight behind the other. The leaves consequently are farther advanced at the time of flowering than those of P. cerasifera. The flowers are each three-quarters of an inch or a little more across, pure white, and borne as abundantly as in the other species. There is a large round-headed tree near the T range at Kew 25 feet high and more in diameter. Every spring this is a mass of white, and is then one of the most beautiful pictures in the garden. P. divaricata is a native of the Caucasus, stretching thence to the south east as far as Macedonia and Persia. It was introduced to England in 1822, but has not been planted so freely as its beauty and the length of time it has been in cultivation warrant.

P. HUMILIS (dwarf Chinese Cherry) is very similar, indeed nearly related to P. Jacquemonti, and, except where collections are kept up, one of the two will suffice. It may, however, be convenient to summarise the distinctions between the two, especially as they have been much confused. P. humilis is a low bushy shrub of habit and stature to P. Jacquemonti and the leaves are practically identical, but in P. humilis the stipules are glandular and ciliolate; while in the other they are laciniate. The flowers of both are rose pink, but the lobes of the calyx in P. humilis are as long as the tubular portion and blunt, whilst in P. Jacquemonti they are not half the length and pointed. Probably they are geographical forms of one species, P. humilis being a native of China. It has been cultivated since the early portion of the eighteenth century.

P. ILICIFOLIA (the Islay).—A Californian shrub or small tree, unfortunately not quite hardy in Britain except in the south-west, even when given the shelter of a wall. It is a very distinct plant; leaves stout, shining green, ovate in outline, and armed with coarse spiny teeth. The flowers are borne in slender racemes 3 inches or so long, and have a conspicuous orange-brown calyx and pale white petals. The species is evergreen and belongs to the Laurel group. Its fruits are half an inch or more in diameter and blackish purple when ripe.

P. INCANA.—An interesting and pretty shrub nearly allied to P. nana (the dwarf Almond). From this, however, it is easily distinguished by its leaves, which are shorter and broader and covered beneath with a conspicuous white tomentum. It reaches a height of 2 feet to 4 feet. It flowers in March and April, the blossoms being deeper of a deeper rose red than those of P. nana, but scarcely so large. A native of Asia Minor, introduced about 1815.

P. INSITITA (the Bellrage).—A small tree, often seen wild in country hedgerows, which bears its white flowers in pairs during March and April. Its foliage is very similar to that of the wild P. communis, and its black globular fruits are ripe in October. The fruit is used for cooking and preserves, &c. There are several varieties, amongst which may be mentioned that with double flowers, another with yellowish white fruits (see THE GARDEN, p. 66, Jan. 25, 1896), and a third with red fruits. It is one of the hardest of the Old World species of *Prunus* and is valuable as a shelter tree, thriving, as it does, in the most exposed positions.

P. JACQUEMONTI.—A pretty shrub, native of North-western Himalaya, Thibet, and Afghanistan, where it is found at altitudes varying from 6000 feet to 12,000 feet. Plants of it at Kew are of rounded, bushy form and from 4 feet to 6 feet high, but it ultimately reaches a height of 10 feet. The leaves are 12 inches to 2 inches long, ovate pointed, and pubescent in the early stages of growth; flowers, of a bright rose pink, individually are only about half an inch across, but borne in great abundance on the twigs, both in the previous summer. This is a useful bush for the front of a shrubbery. Seeds of it were gathered by Dr. Aitchison in the Kurram Valley and sent to Kew in 1879. From these the first cultivated plants were obtained. It is nearly related to the Chinese P. humilis, under which species the distinctions between the two are pointed out.

P. JAPONICA (P. sinensis).—Like many other popular trees and shrubs, this, although originally introduced to this country from Japan and usually regarded as a native of that country, is really a native of China. It is one of the most lovely of all spring-flowering shrubs. Grown on a wall it is especially fine, and although it does not flower with quite the same freedom in the open, it is admirable in a group or even in a bed by itself. I have not seen the single form of this species, and am not aware of its being in cultivation. The double ones have white flowers with a more or less rose tint, some, indeed, of a distinct rose colour. The flowers, each about 1½ inches across, are borne thickly on short stalks from the slender shoots of the previous year. When grown on a wall the shoots should be pruned back immediately after flowering, this being sufficient for one season. That peculiar fatuousness which impels some people to graft a very possible tree or shrub that can lay hands on, before irritation sets in, results in this case of this charming shrub. It can be struck from cuttings, but it is better to layer the shoots of an old plant. By the latter method nice flowering specimens can be obtained in two years. Grafted plants neither grow nor flower so well, and a constant watch has to be kept for suckers.

P. LAURO-CERASUS (the common, or Cherry Laurel).—There is probably no shrub that has been so misused as the common Laurel. When allowed to grow of its own free will it develops into a large shrub of free and graceful habit, and is, especially when in flower, a decidedly orna-

mental evergreen. Unfortunately, however, it is usually cropped and mutilated and made to cover sloping banks, or, still worse, enters largely into the composition of those "mixed shrubberies" which are so depressing and persistent a feature of many parks and gardens. In such places Laurels have to be continually cut back to keep them thin because, in their nature, searching roots prevent the cultivation of horticultural plants anywhere near. The most pleasing effect I have seen produced by the common Laurel is where it has been planted as an isolated specimen in thinly wooded pieces of ground where there is enough light for it to thrive and where it is never touched by the knife. Being somewhat tender, it requires some shelter of this kind. Several varieties are in cultivation, the best of which are colchica, caucasica, and rotundifolia, all with broader, larger leaves than the common Laurel and preferable to it on account of their harder constitution. Salicifolia, angustifolia, and parvifolia are narrow-leaved varieties, the last being often grown under the name of Hartogia capensis. A new variety from the Shikpa Pass (shipkaensis) is said to be the hardiest of all, and to have withstood winters in parts of North America and the Continent where no previously known variety of this Laurel would survive.

P. LUSITANICA (Portugal Laurel).—There are few more beautiful evergreens than the Portugal Laurel seen at its best. It grows to a height of 20 feet (or even 30 feet), with a diameter at the base of quite as much, thus making a rounded pyramid of dense foliage of the glossiest and darkest green. In early June it bears a wonderful profusion of long, pendent racemes of rather dull white flowers. But the Portugal Laurel is rarely seen in its full beauty, because it is nearly always jumbled up with other things in a shrubbery. It is an isolated bush, with its lower branches sweeping the ground and allowed full freedom of growth, that it's value both as a winter and summer shrub is seen. There are many such specimens in the more wooded parts of the grounds at Kew, and they are always beautiful in the early days of June. During the severest winters I have never seen the Laurel injured in any way, although the soil on cold, heavy soils it might occasionally suffer. In any case it is harder than the common Laurel. It is a native of Spain and Portugal and was introduced in 1648. Var. myrtifolia has smaller leaves than the type, and its branches are of more erect growth. Being dwarfer it is also better suited for shrubberies. Var. azorica has much larger leaves and fewer, but larger flowers on the racemes.

P. MAHALEH (the Mahaleb).—None of the European Cherries surpass this in its bridal spring-time beauty. Early in May this year I saw in Messrs. Paul's nursery at Cheeham a group of some half-a-dozen trees of the pendent variety so completely hidden by their flowers as to resemble some great fantastic snowdrift. Added to this is the charm of a powerful, but sweet and grateful fragrance. The Mahaleb is a native of Central and Southern Europe, and is perfectly hardy in England. It reaches a height of 20 feet to 30 feet, and is of free graceful growth; especially is this the case with the variety pendula, which, although not strictly weeping, is of looser, laxer habit than the type. The leaves are each 2 inches long, and the pure white flowers appear in rather flat racemes.

P. MAXIMOWICZII.—I have only seen small plants of this species, which were raised from seed two or three years ago. The following particulars are taken from Sargent's "Forest Flora of Japan," in which work the species is figured and described (p. 37): It is a tree 25 feet to 30 feet high, the young wood, petioles and under-surface of leaves covered with a rusty pubescence. The leaves are elliptical or elliptical-obovate, with a drawn-out apex and coarsely toothed. The flowers are produced in May in racemes 3 inches to 4 inches long. Each flower is half an inch across and white. A distinctive character of the species is the leaf-like coarsely-toothed bracts on the racemes. The

species was originally discovered in Manchuria, and has since been found in Japan and Corea.

R. MOLLS.—This was originally discovered by David Douglas in the valley of the Columbia River in 1825, and was introduced in 1838. It appears to have been re-introduced by Jeffrey during his collecting expedition for the Oregon Association about 1851, and re-named *Prunus Patoniensis*, under which name it is still sometimes known. It is a small tree, 20 feet to 30 feet high, sometimes degenerating in a wild state to a shrub. The leaves are usually blunt and covered beneath with a soft down. The flowers are white and produced eight to twelve together in corymbous racemes, each about half an inch across. The fruits are red.

P. MUME.—Although one of the commonest of cultivated trees in Japan, this Apricot is now thought to be a native of Corea. Under the hands of the Japanese cultivators it has developed numerous forms, and there are now at Kew varieties with flowers red and white, single and double, as well as one of pendulous habit. The wood resembles that of the common Apricot. The leaves are broadly ovate or cordate, serrated, and contracted at the apex into a long tapering point. The plant is leafless at the time of flowering. At present it is only quite recently that this species has come into notice, it has been in cultivation for some years both here and on the Continent, but disguised under other names, one of which is *Prunus Myrobalana* fl. rosea.

P. NANA (the dwarf Russian Almond).—This, a native of Southern Russia, is one of the flattest of the Almonds, being from 2 feet to 5 feet high. It flowers during March and April when the leaf-buds are only beginning to burst, the flowers being of a lively rose colour and about three-quarters of an inch across. The leaves are narrow, smooth, dark green, and glossy. It is a charming shrub, and can be easily and quickly propagated by layering. The species will thrive in a dry situation better than most Almonds.

P. ORIENTALIS (Silver Almond), a bush or low tree, is grown more for the beauty of its silvery foliage than for its blossoms; indeed, it rarely flowers with any freedom in this country, and is not hardy, as the great frost of February, 1895, proved, but it will stand our ordinary winters if the plants are not very young. Its leaves, which are short and ovate, are covered with a beautiful silvery tomentum. It is a native of Western Asia and has been in cultivation since 1756.

P. PADUS (the Bird Cherry).—This tree, a native of Britain as well as of North and Central Europe, stretching thence eastwards to Manchuria and Japan, is often 40 feet high, with thin leaves which when broken give off a Rue-like odour.

The flowers are borne in drooping racemes, these in the commonest form reaching 6 inches long. There are varieties, however, notably one in cultivation at the Knaps Hill Nursery, much finer both in the flowers and racemes. A double-flowered variety (*floro-pleno*) recently obtained from the Continent is the most striking I have seen. This year on young plants only a short time transplanted racemes were borne in plenty, each one 8 inches long, and with double flowers three-quarters of an inch in diameter, lasting longer, too, than those of the ordinary form. A variety also worth special mention is the Manchurian one, with fine blooms and racemes, but chiefly notable for coming into flower early in April, and, therefore, long before our European type is showing a bloom. There are other named varieties in cultivation, the most distinct being *var. stricta*, with quite erect branches and racemes. *Var. aculeolata* has its foliage mottled with yellow. The common Bird Cherry is a tree rather for the park and woodland than the garden proper, but the Manchurian and double-flowered varieties fully deserve a place among flowering trees.

P. PENDULUS (*Cerasus pendula*).—One of the earliest of the Cherries to come into flower, commencing usually towards the end of March. Its pendulous growth has led to its being commonly worked on stocks 5 feet to 6 feet high, but it is in-

teresting to note that it comes true from seed, as several young plants at Kew testify. This seems to indicate that it is specifically distinct, although the origin of the wild type appears to be doubtful. It is planted freely in Japan, especially in the old temple grounds, and Prof. Sargent states that he saw specimens over 50 feet high. The leaves are much like those of the common Cherry, the flowers of a lovely shade of soft rose and borne in great profusion. In the United States, where the summers are much hotter, it thrives better than in England, and it should, if possible, be planted in a sunny spot sheltered from the north and east—not that it is at all tender, but it flowers at a time when the harsh dry winds from those quarters are particularly prevalent.

P. PENNSYLVANICA (wild red Cherry).—At Kew last spring a tree about 20 feet high of this Cherry was very beautiful, and the species is evidently one that might with advantage be more freely planted than it is now. It is a native of North America, and is widely spread over the northern portion, but is most abundant in the Atlantic States. It grows 30 feet to 40 feet high, with oblong-lanceolate, acuminate leaves, the teeth being often tipped with glands. The flowers are white, ½ inch across and produced in corymbose clusters. It has been in cultivation in this country since 1770, when Dr. Lee of Hammersmith introduced it. Sargent says it is a rather short-lived tree, but plays an important part in the preservation and reproduction of North American forests. It seeds freely, the seeds being freely distributed by birds and streams, and thus rapidly growing young plants give shelter to other kinds of forest trees which are longer-lived than they, and ultimately constitute the new forest.

P. PERSEA (the Peach).—Although neither so free-growing nor so hardy as the Almond, the Peach in all its forms is exceedingly beautiful, and in positions sheltered from the north and east ought to be planted freely. There is now a goodly number of varieties at the service of the planter, chiefly single and double forms with white or red flowers. There is one also with purple foliage known as *folia rubra*, this colour extending also to the fruit. Perhaps the loveliest variety of all is a semi-double one with brilliant carmine-crimson flowers which has been shown at the spring meetings of the R.H.S. for several years past by Messrs. Veitch. It is named *magnifica*, and was awarded a first-class certificate on February 13, 1894. The other varieties it is not necessary to specify; they are known by descriptive names like *flare pleno*, &c. The Peach is in all probability a native of China.

P. PROSTROTA (Mountain Cherry).—A rare species, but one of the most lovely of the dwarf Cherries. It is a native of the mountains of the Levant, and, although not strictly prostrate (at least in cultivation), is a low spreading bush, the long, slender branches arching outwards and downwards to the ground. The leaves, often under half an inch in length on wild plants, but twice or thrice as long on cultivated ones, are broadly ovate, finely and regularly toothed. The flowers, borne on very short stalks, of a beautiful, lively shade of rose, are half an inch to three-quarters of an inch across, and so plentiful as to almost hide the branches on which they appear. It was introduced in 1802, and, coming from altitudes of 5000 feet to 6000 feet, is perfectly hardy. Normally the petals should be five in number, but under cultivation there are frequently six or even eight in one flower. This is a very delightful little shrub, whose rarity has hitherto prevented it from being fully appreciated.

P. PSEUDO-CERASUS (the Japanese Cherry).—This is the tree whose flowering marks one of the epochs of the year in Japan. For centuries the Japanese have planted these Cherry trees along the roadside, as well as in their gardens and temple grounds. Although neither in size nor form do they bear comparison with those of Japan, their beauty during April is sufficiently great to enable us to appreciate the enthusiastic admiration they obtain from a flower-loving people like the Japanese. In the forests of North Japan

this species becomes a large timber tree, but in England it is not often seen above 20 feet high. It has acuminate, finely toothed leaves, and its flowers will in the best double forms measure 2 inches across. It is these double-flowered varieties that are almost solely cultivated in England. They are of various shades of rosy white, and are known under such names as *Cerasus Watereri*, *C. Sieboldii*, &c. More so perhaps than any other are these double-flowered Cherries worth extensive planting, never failing to flower, being of surpassing beauty and perfectly hardy. They should be sown on a cool, moist bottom, and the effect they produce in spring is all the greater if room can be afforded for a grove of a dozen or so trees with a backing of Holly or other evergreen. During the past few years Messrs. Veitch have obtained from Japan a curious and rather striking variety of this Cherry. Its flowers are of the same size as those of the ordinary form and semi-double, but the rosy petals are suffused with a yellowish green tinge, which has not yet been given a distinctive name.

P. PUDDUM.—This, one of the few Cherries that have been obtained from Northern India, is as yet a very rare plant in British gardens. It is a native of the mountains of Bhutan and Sikkim, at elevations of 5000 feet to 8000 feet. There is a tree at Kew 15 feet high which flowers freely each spring before the leaves appear. The flowers, three-quarters of an inch across, are of a beautiful soft shade of rose, and crowded on the naked twigs. The fruits, which it ripens in fair quantity, are red, like those of the garden Cherries and of about the same size, the upper half assuming a cone-like shape. The leaves are 3 inches or 4 inches long, smooth and serrated. In India this tree reaches 30 feet in height and its flowers vary in the different forms from deep rose to almost pure white.

P. FUMILA (*Cerasus glauca*, C. *depressa*).—A shrubby species native of North America and growing from 3 feet to 6 feet high. Grown singly it is not particularly effective, but when grouped it is very attractive. There are both erect and prostrate forms in cultivation, the latter being frequently grown as *Cerasus depressa*. The bark is dark coloured, the leaves bright green, narrowly oblong and about 2 inches long. The flowers appear in great quantity during April and May, and although perhaps the smallest of all the Cherries, make a pretty display. There are forms with dull white flowers which ought to be avoided. This species can be easily propagated by cuttings and layers.

P. SEROTINA (the Run, or wild black Cherry).—In the United States this species is sometimes as much as 100 feet high. Its wood is greatly valued for furniture-making. At Kew there are numerous specimens sprinkled about the grounds, varying from 20 feet to 40 feet in height. It is not one of the most striking of the Cherries, scarcely so fine even as our own Bird Cherry, but it produces a great abundance of its racemes of whitish flowers, these racemes being 3 inches to 5 inches long. The glossy dark green foliage, too, which is not unlike that of the Portuguese Laurel, can always be distinguished in a group of trees. Like P. *Padus*, it is better adapted for thinly wooded, semi-wild tracts than for the garden itself. It flowers in early June. This Cherry was one of the first American trees grown in this country, having been introduced in 1629. It is very widely spread, reaching from Canada to Central America. There is a pretty weeping variety known as *pendula*.

P. SERULATA.—This Cherry, which is a native of Japan, although scarcely so fine in flower as P. *pseudo-Cerasus*, is very nearly allied to it. By some authorities the two are not considered to be specifically distinct. P. *serulata*, however, except in the size of young trees, can be recognised by its peculiar mode of branching. The main stem is erect for a few feet, but then abruptly branches off almost horizontally into three or four divisions, and henceforth ceases to send up a properly defined lead. It is picturesque, representing one of the modes of growth we have come

to regard as essentially typical of Japanese tree vegetation. From P. *pseudo-Cerasus* it may be distinguished by coming into flower about a fortnight later and by having invariably glabrous foliage, the leaves of the other being usually pubescent. The flowers, whilst scarcely so large as in the finest varieties of P. *pseudo-Cerasus*, are still very beautiful. They are rose-tinted white and always double. The single-flowered form is not in cultivation.

P. SIMONI.—This is a comparatively recent introduction to English gardens, although figured in the *Revue Horticole* in 1872. It has leaves of about the same size as the common Almond, but the tree itself is of more erect habit and frequently resembles the Lombardy Poplar in form of growth. The flowers are white, and are produced in February and March. Its fruit is deep purple and ripens early. A native of China.

P. SPINOSE—*BLACKTHORN* and the double Sloe or Blackthorn.—There is no need to name the common Sloe of the hedgerows, but this variety is a really beautiful shrub or small tree, and well worth a place in any garden. It was first found wild in Europe near Tarascon, in the south of France, but long previous to that had been prized by the Chinese and Japanese. It flowers at the same time as the Sloe, its blossoms being pure white, about half an inch in diameter and not perfectly double, the centre of the flower containing a cluster of stamens. The flowers are thickly crowded on the short spiny branches, the black colour of which serves to show off more vividly the pure beauty of the flowers. It is a plant that unfortunately does not transplant well, and it ought to be put in permanently when young. This, together with its slow growth, probably accounts for its comparative scarcity; it is, however, one of the most charming of March flowering shrubs.

P. SUBHIRTILLA.—A new introduction from Japan, which has many points of resemblance to P. pendula. A small plant flowered at Kew last spring, and, judging by it, there is every likelihood of its developing into a useful tree. Its leaves are like those of P. pendula in size, ovate, toothed, and pointed, but instead of being of a glossy green, as in that species, they are dull green, and both surfaces are more hairy. The flowers are half an inch in diameter and of a lovely shade of soft rose. This Cherry is of erect growth, and it has been suggested that it may be the type of the species, which P. pendula is the weeping form. The differences in foliage as well as the fact that P. pendula comes true from seed does not, however, support this view. It is in any case a welcome addition to flowering Cherries.

P. TOMENTOSA.—A shrubby species, rarely more than 8 feet high, and of quite a bushy habit. It is well named, for the whole plant is more or less covered with downy hairs. The leaf, covered thickly, on the under side with a soft velvety pubescence, narrows to a point. It flowers in April and its blossoms are of a rose white, becoming more distinctly rose with age. The Cherry-like fruits are borne on short stalks and each one is about half an inch across. The species, which is at present rare in Europe, is quite hardy at Kew. It is very distinct and appears to be a connecting link between the Cherries and the Apricots. It is a native of North China and perhaps Japan.

P. TRILoba FL.-FL.—This, perhaps the most lovely of all the dwarf *Prunus*, is a native of China and was introduced by Fortune. It is of shrubby habit, leaves from $\frac{1}{2}$ inches to 4 inches long, prettily and unevenly toothed, and covered with short hairs on both sides. The flowers are at their best in early April, and each one measures $\frac{1}{2}$ inches to 2 inches in diameter. On first opening they are of a lovely shade of delicate rose, changing with age to an almost pure white. This species is perfectly hardy and will thrive as a bush in the open, although not so well as on a wall. The above names refer to the double-flowered variety, which for forty years has been the representative of the species in our gardens, and which is the cultivated plant of the Chinese.

Within the last year or two, however, the single-flowered wild type has been introduced. It has smaller rose white flowers and leaves of the same shape as Fortune's plant, but smaller.

P. VIRGINIANA (*Choke Berry*) is a near ally of P. serotina, but a smaller tree, rarely more than 30 feet high and often a mere shrub. It has broadly oval or ovate leaves, which terminate in an abrupt point and are toothed; flowers pure white, each about half an inch across and borne in racemes 3 inches to 6 inches long. In England it flowers in May. Professor Sargent says it is the most widely distributed of all North American trees, occurring on both sides of the Rocky Mountains, and extending from Hudson's Bay in the north to California in the south. It has scattered habit in the north, but varies greatly in the colder climates, the foliage becoming stouter and more pubescent in the drier regions. From its near ally, P. serotina, it may be distinguished by the disagreeable odour of the bark. Loudon observes that it deserves a place in every collection, and should be

Carnations are stood upon them, there is not an opportunity for a thorough escape of superfluous water, and the roots suffer much in consequence. The ashes should be used in a fairly rough state and not sifted, a level surface being secured by passing the garden roller over them. Every year or two the old surface should be removed with a spade and an extra coating of ashes given. If this is neglected worms are sure to be troublesome, although these pests can now be set at defiance by the use of the patent wire crests.—J. C.

STOVE AND GREENHOUSE.

FUCHSIAS AS PILLAR PLANTS.

THE illustration shows at once the value of Fuchsias as pillar plants. Lord Beaconsfield, the variety here figured, is a hybrid raised some years back by Mr. Laing, the seed-bearing

parent, F. fulgens, having been introduced from Mexico as far back as 1830. Lord Beaconsfield has long scarlet flowers, which show to great advantage when the plant is grown on a pillar. It is a most profuse bloomer; consequently it is not so continuous as some kinds, though it invariably flowers well a second time. Of the lighter kinds most suitable for this purpose are Rose of Castile, Lustre Improved, Arabella Improved (singles), and Mme. Jules Chretien (double). Of the scarlet and red varieties, Corallina, Corymbiflora and Charming (singles), Avalanche and Sir Garnet Wolsey (doubles) are the best. In large conservatories that have the roofs clothed with climbers Fuchsias are especially to be recommended, seeing they grow and flower so well under partial shade; whereas to attempt to grow other genera that require abundance of light and sun, as Acacias, Abutilons, Clematis, Indivisa, Cestrums, Lasiandra, &c., is to court failure. To give a select list of plants to suit conservatories in general is impossible, the position, convenience for planting out, light and shading having to be taken into account.

J. R.

Etonington Hall.

Mignonette Machet in pots.—A good selection of this is undoubtedly the best for growing in pots for spring and early summer flowering, but towards autumn it is inclined to go too much to growth. I now have a good batch, which, owing to the late dull, showery weather, has grown so tall that it can hardly be identified as the same variety as that grown in the spring, and if it was the same, for, in addition to the tall growth, the flower-spires are very poor. A good selection of Miles' Spiral or other white variety is best for autumn flowering.—F.

The Cape Leadwort (Plumbago capensis).—The interesting notice by "R." about the Plumbago in THE GARDEN (p. 213) reminds me of the following note about this flower in Mrs. Proctor's "Memoir of Christina G. Rossetti": "I should have mentioned that the blue Plumbago is the pride of Wynberg, where all the hedges are composed of it; that is, where they are not of blue Myrtle. When left to Nature, sheets of pale blue flowers enchant all beholders. There are, however, many vandals who keep such carefully clipped." This exactly supports "R.'s" statement, that this beautiful flower should be allowed to grow



Fuchsia Lord Beaconsfield as a roof plant. From a photograph by Miss Tempst.

planted in every wood or shrubbery where it is desired to attract singing birds.

P. WATSONI (Sand Plum).—A species described for the first time by Professor Sargent about two years ago. He had had it in the Arnold Arboretum for fourteen years, having raised it from seed sent from Kansas. He describes it as a twiggy shrub 3 feet to 12 feet high, with abundant fragrant flowers appearing about the middle of May. Each one is half an inch in diameter and are produced in clusters of three to four so plentifully, as to completely cover the branches. It is of compact habit, hardy and likely to prove of value in sunny localities. It is cultivated at Kew, but is as yet small.

W. J. BEAN.

Standing plants on ashes.—The practice of using ashes for standing plants on during the summer months is a very old and a very good one, but frequently the plants do not stand the chance they ought to, owing to the fact that the ashes are used in much too fine a state, so that when heavy pots containing Chrysanthemums or even

with long, loose, uncut boughs, as in its natural state; and I may add that in our conservatory it climbs along the roof, carrying long, hanging boughs of blue blossom. It may interest a correspondent—T. Roach (p. 134), who asks for hints on table decoration—to hear it has proved a very useful and extremely elegant plant for the dinner-table during the summer months. It looks particularly well mixed with the pure pink of the Monthly Rose, or in a bowl surrounded by cool yellow Allamandas, giving grace and play to them otherwise rather stiff flowers.—M. C. D.

Oxalis cernua.—As the season has arrived for putting up the various roots, tubers and bulbs for winter and spring flowering, it will not perhaps be out of place to draw attention to the above free-flowering and decidedly handsome plant. It is a fine subject for the adornment of either conservatory or greenhouse, and its culture is so easy that it may also be grown as a window plant. The colour of its flowers is a very bright yellow, almost identical with that of the ordinary field Buttercup. The bulbs are very small, and one could hardly imagine that they could possibly produce such a wealth of blossoms and for such a length of time, the flowering period extending as it does, over some eight or nine weeks. I purchased two dozen bulbs last autumn and grew them more as an experiment than anything else, but I was so pleased with the results, that I intend growing another batch this season. The plants in question stand on low shelf by the side of the walk in greenhouse, and when they came into bloom they excited general admiration, and many were the inquiries made concerning them. A mixture of loam, leaf-mould and sand seems to suit it, and one bulb is quite sufficient to place in a 6-inch pot, as the plants grow so freely. After being potted the bulbs are best placed in a cool, dark place—mine were put in the Potato-house—and they should be looked at frequently so as to catch them as soon as they start to grow. Neglect in doing this will lead to their being spoilt should the young and tender growths become drawn; at any rate, they will not make bushy, robust plants. At this stage they may be placed in a greenhouse close up to the light or placed in a window, when with care and attention they will quickly develop and soon become a mass of flowers. I find that the flowers close up during part of the day when subjected to bright sun light, but this might be obviated by affording them shade or by placing them in a cool, shady position, and this would also help to prolong the flowering season.—A. W.

Vallotia purpurea.—“H. P.”, in his note on the above (p. 213), draws attention to the great losses that have occurred of late years. A large portion of the collected bulbs from the Cape are taken up while in flower, which must entail a loss of vitality.

The flowering period in one district where they are, or were, plentiful is February. I had made freshly-imported bulbs flower for the first time in England at the end of March, but if they remain in health they soon approximate to the flowering period of the old home-grown Vallotias. Oftentimes bulbs, after having been potted in the month of May, would soon have thrown off numerous small bulbils. This is probably a sign of weakness, the parent plant, fearing its vitality diminishing and being unable to propagate seed, endeavouring to perpetuate its species by offsets. I imagine that the whole of those growing in the district of Cape Colony to which I have alluded were raised from self-sown seed, as in the large number which I examined, although I occasionally found a large bulb split into two distinct portions, I never remember finding offsets. Curiously enough, there seemed to be little or no seminal variation, the colour of the many hundreds I saw in bloom being of a precisely similar tint of crimson-scarlet. They were to be found in the greatest quantities by the side of small rivers, which ran in deep kloofs or chasms, the banks here and there glowing with their vivid colouring. These rivers rise in a mountain range about 7 miles from the sea, and in stormy weather rise very suddenly, submerging the majority of

the Vallotias under several feet of roaring water. On the flats above the plants are also found as well as on the lower portions of the mountains, which in winter have often a snowy mantle. The Vallotias go by the name of Berg (mountain) Lilies at the Cape.—S. W. F.

Begonia President Carnot.—Amid the bewildering confusion of tuberous Begonias it is refreshing to come upon a new or improved strain of the winter or perpetual flowering species or varieties. I lately saw the variety President Carnot clothing several rafters in one of the plant stoves of the Royal Botanic Gardens, Edinburgh. The size, colour, beauty of leaf and flower of this Begonia induces me to recommend it to all as a roof, rafter, and wall furnisher of the most unique and beautiful sort. No one with a cool stove or warm greenhouse should be without this Begonia. Notwithstanding the prodigality of tuberous-rooted kinds, few gardens can dispense with these perpetual and winter bloomers.—D. T. F.

Bougainvillea glabra.—So far as I remember, the bougainvillea referred to by “R.” was kept as a warm greenhouse, which is but another name for a cool stove. The plant referred to is also several years old as well as large. It also covers a large portion of the small house in which it grows. That house is also a lean-to or half-span in form, facing south or thereabouts. The whole also are on the side of a warm hill facing south. Mr. Squibbs, the able gardener at Ickworth for so many years, grew this and other plants remarkably well. I state this much that your readers may be able to see the favourable conditions surrounding this fine old plant, and not with any view of questioning the statement of your correspondent “R.” viz., that this grand plant may be very successfully bloomed in a greenhouse, warm or otherwise. Time, however, is saved by growing it into bloom in a warm greenhouse or cool house. The richest coloured flowers of this fine Bougainvillea have been seen in the greenhouses. The plants on the back wall of a cool greenhouse were allowed to run their heads out at the open lights and to remain there through the late summer and early autumn months. The bracts thus produced had a depth and intensity of colouring never before nor since met with unless under similar environments. And yet so accommodating is this plant as to temperature and moisture, that the next best Bougainvillesas ever seen by me were grown by my late friend Mr. Sheppard on the back wall of a tropical fernery at Woolverstone Park, near Ipswich. Here, too, the plants were old and sprouted close home every season after blooming.—D. T. F.

POTTING MALMAISON CARNATIONS.

A GREAT many rooted layers of these increasingly popular Carnations are annually potted up during September; mine are being done this week, being well rooted into the Moss. I do not turn my old plants out of doors or into a pit for layering, but keep them in a cool shady greenhouse. The Moss has become permeated with white rootlets, these being the most distinct; they will be severed from the parent and placed in 4-inch pots, each 3-inch pot, as, although my plants will each have three or four strong growths, I do not care to put them into too large pots to start with, finding it far better to give another shift, say in November, using then a 4½-inch pot, and wintering them in them. At first I give them quite a light fibrous loam containing a large amount of natural grit, in fact it comes from the sides of carriage drives and pleasure ground walks, when they are edged in the spring, and is laid up for twelve months before being used. At the second potting, however, I like to give the plants half of this material and half of a stronger loam, such as is used for Vines and Peaches, as the Malmaison Carnations seem to prefer a somewhat stronger rooting medium than the ordinary run of Carnations, the great thing being to keep it open by an addition of road grit or coarse sand, and to drain the pots well. Potting completed, the plants will be re-

turned to the shady greenhouse, syringed on fine sunny days for a fortnight, and kept free from draught. In November I remove them to an extra light, airy house, exercising great care in watering, as the least carelessness in the matter is liable to produce rust and spot. I am afraid that many gardeners who still cling to the old practice of turning their old plants out into the open garden for layering, will this year find rooting take place very slowly, and many layers fail altogether, the weather having been so wet and many of the nights cold. Indifferently rooted Malmaison layers invariably turn yellow and die off after potting, whereas those rooted under the mossing system indoors are proof against all the evils arising from inclement weather.

J. CRAWFORD.

TUBEROUS BEGONIAS AT BEXLEY HEATH.

MR. THOS. S. WARE, of the Hale Farm Nurseries, Tottenham, has established a Begonia nursery at Bexley Heath, and there the fine tuberous Begonias shown in London, Chester and elsewhere are grown. The immense beds in the open air have been an attraction to the thousands of excursionists who drive through that district. The plants gave no signs of having passed through an exceptionally hot dry season. Mr. Pope, the experienced grower, stated that a free dressing of solid manure and timely applications of water had much to do with the success, and that these Begonias would be even more popular than they are at present, bedding, if only drivers of carts would ensure the ground more freely for them. They revel in a rich soil and abundance of moisture. Those at Bexley Heath are all this year's seedlings, the seed having been sown in January. They are planted out 4 to 5 inches apart in beds 4 feet wide, and when I saw them were in a solid mass. Only erect flowering varieties are grown, and these have large, well-formed flowers. Some of the beds are in separate colours, others are mixed, but will have had distinctive marks placed to them long ere this, so that separate colours or well variegated mixtures can be supplied. The double flowering varieties are also greatly improved, fewer of the clumsy Hollyhock-like blooms being observable than formerly, handsome well-formed flowers resembling Camellias in form and size taking their place. Salmon, yellow, rose, crimson and white shades predominate. Beds of these are most effective.

In the houses I saw the remains of what must have been a grand collection of tuberous Begonias. Many of the doubles were being starved down preparatory to saving seed from them, but enough were in sufficiently vigorous condition to convey a good idea of what the strain is like. Bexley Gem, a variety of an exceptionally good habit, foliage distinct, flowers Camellia shape, dark rose in colour, is likely to be the forerunner of a new race of an improved habit of growth. Beauty of Belgrave, colour of La France, Rose Queen of Teek, crimson scarlet; Duchess of Teek, pale yellow; Ada Allward, rich salmon, white centre; Claribel, salmon white centre; Mrs. French, cream white; Mrs. Pope, fine white; Picotee, white, pink edge, fine flower; Princess May, pure white with crimped edges; Queen Victoria, blushing peach, one of the best; Victory, salmon-scarlet, extra good; and Viscountess Cranbrook, rosy pink, white centre, are all excellent varieties. Fringed and Picotee-edged varieties are also noticeable.

W. L.

Smilax.—This climbing plant is now grown largely in every good garden, but I have nowhere seen it so liberally treated as at Buchanan Hill, Crawley, where two or three houses are entirely devoted to it, the plants being put out into beds and the climbing growths run up strings. It is in this way that the immense quantities sent to market are produced, and which seem to be so much in request now for decoration.—A. D.

Narcissus Ard-Righ forced.—Of all the Daffodils I prefer this variety for forcing, as it

requires but slight warmth to have it in flower in January and February. Its bright yellow flowers are always acceptable, and more so at that time of the year when yellow or golden-coloured flowers are not abundant. Its culture being so easy and only slight heat being necessary to bring it into flower, it is essentially a subject that amateurs may grow in their greenhouses without fear of failure. The chief thing to remember is to plant the bulbs early or as soon as they can be bought, which is generally early in October. If potted at once and plunged in a bed of ashes or leaf-mould with the Tulips and Hyacinths, they quickly root and are ready for removal to a pot or greenhouse during November and December. When the flowers commence to open, they will speedily develop if placed in a temperature ranging from 60° to 65°. I prefer potting the bulbs singly in 3-inch pots, as this is then more convenient for the purpose these forced Daffodils are required for here, but they may also be planted in 6 inch or 7-inch pots, putting eight or nine bulbs in a pot. Anyone having a conservatory or greenhouse to keep gay with flowers early in the year might do worse than grow this Daffodil in quantity. If required merely for cutting, the bulbs need only be planted in either boxes or pans. After being forced the bulbs should not be thrown away, but planted either in mixed borders or shrubberies, or otherwise utilised for naturalising in woods or the wild garden.—A. W.

Carnation Duke of York in pots.—After trying this variety as a pot plant for two seasons I have decided to discard it, as it is neither so good a grower nor bloomer as Uriah Pike. The growth is long-jointed and the plants have a leggy appearance, whereas those of Uriah Pike are stocky and well furnished from the pot upwards. The one great drawback with it is that very few blooms indeed are produced until the second year, even when strong layers are potted up from the open border. This is somewhat strange, as in no latter position no Carnation can touch it for free-flowering the first year after laying. If it made meager growth when confined to pots, one could understand its shyness, but my yearling plants are now large dense bushes in 6-inch pots, yet I expect to have to wait till next year before getting much bloom from them.—J. C.

CARNATION MME. THERESE FRANCO.

I FIND many growers are discarding the old favourite Miss Joliffe and growing the above-named in its stead. Very few Carnations have had a long run as Miss Joliffe and I believe now it will be some time before it will be superseded. I have heard several complaints about its deterioration, but from personal experience I believe it to be as good as ever. Mme. T. Franco has some advantages; the flowers are larger and of good form and equally good in colour. It may also be regarded as a good winter-flowering variety, but it certainly cannot be compared with Miss Joliffe for succession of bloom. I grew both varieties last winter, and found Miss Joliffe to keep up its old character, but with Mme. T. Franco, after one crop of bloom was over it was a long time before the succession blooms came on. I find that one cause of winter-flowering Carnations deteriorating so much is that, being grown under glass, the growths gradually get weakened. Some of the healthiest and strongest plants selected in the spring should be potted on and grown during the summer in the open where they are fully exposed to the sun; it is an advantage to be able to protect them from heavy rains. Any flower-stems should be taken out as soon as they appear. If taken out early, the stem will heal over and there will be no danger of dying back, but when older bloom-stems are taken off, the stem often dies back. Care should be taken to keep the plants free from insects. The frequent use of hot-water is one of the best aids to all insect pests. It also tends to stimulate the growth of the plants. All winter-flowering Carnations are inclined to deteriorate unless care is taken to keep healthy stock to propagate from, and when this does occur

it is better to procure new stock plants and make a fresh start.

One of the greatest evils, and one which is sure to weaken the stock, is giving too much heat in the autumn. Air and sunshine, with just enough fire-heat to take off the damp, will be found to encourage good healthy growth, and the blooms will be larger than when more heat is given. All Carnations grown in pots should be under glass before we get heavy autumnal rains. October is the best time to commence propagating, as then strong cuttings may be had which will root freely when there are a moderate bottom-heat and a

in the coloured plate with THE GARDEN for September 10, 1892, are in many places very conspicuous just now, and serve to light up the intermediate house or warm end of the greenhouse at this time of the year. The nomenclature of gesneraceous plants is in a particularly confused state, and most of those to which the generic name of Gesnera is generally applied have curious scaly rhizomes, but this, in common with two or three other, produces a firm, solid tuber, which will get quite as big as a man's fist. After flowering, this Gesnera goes completely to rest, when it should be kept dry for a time. It will often



Prunus pseudo-Cerasus. (See p. 314.)

cool surface. The cuttings should be removed from the close pit before they begin to make growth, and with care, short, stocky plants may be secured, which will branch out freely when potted on early in the spring. These will make fine strong plants for 6-inch pots, flowering the following autumn and winter. A. H.

Gesnera cardinalis.—The brilliantly tinted flowers of this Gesnera, which are so well shown

bloom in the spring, and after a rest in the summer will start into growth and flower well at this season. This Gesnera pushes up a stout stem from 6 inches to a foot high, clothed with large bright-green heart-shaped leaves, and terminated by a cluster of rich vermilion-coloured blossoms. The entire plant—leaves, stems and blossoms, are all thickly covered with hairs. These hairs are particularly noticeable on the flowers, which have thus quite a velvety appearance. In starting

this Geenera after a period of rest, the tubers should be completely shaken clear of the old soil and repotted in good open compost, such as equal parts of loam and leaf-mould, with the addition of some sand and well decayed manure. This plant may be increased by cuttings or by seeds which with a little attention ripen readily.—H. P.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

OCTOBER 6, 7, AND 8.

The early autumn exhibition of this society was held on the above dates in the Royal Aquarium, Westminster. On this occasion nineteen classes were provided. The groups were very beautiful, each of the three exhibits being well worthy of the distinction conferred upon it. The pleasing break away from the old stereotyped form of arrangement has resulted in a charming association of Chrysanthemums and fine-foliated plants, in highly coloured Crotons and Baccas, besides many other useful plants, &c. Although two classes are provided for plants, there were no competitors forthcoming. Perhaps the prizes were not of sufficient value to encourage the members to grow for this show. Contrary to the usual experience, only one competitor entered for the twenty-four Japanese, while for the twelve blossoms there were only two. The incurred and won were very weak, but in the now popular class for Chrysanthemums in vases in which large flowers are used there was a good competition, and this provided a very interesting display. The decorative value of the Chrysanthemum was ably illustrated by a goodly number of exhibits, making a pretty diversion from many of the other formal stands. The miscellaneous exhibits really made the show, and these were in fine variety, and in many instances of a high order of merit. The practice of decorating the two fountains which are situated at either end of the building is a move in the right direction, and added very considerably to the attractiveness of the exhibition. Michaelmas Daisies, zonal Polargoniums, hardy border Chrysanthemums, the last in splendid condition, were shown in great variety and in fine form, while Apples and Pears were largely in evidence. A good display of Dahlias was also seen, each type being well represented. Taken as a whole, the show was a good one, and certainly one of the best of recent years, the only cause for disappointment being the poor display of large Chrysanthemum plants and blooms.

For a group of Chrysanthemums and fine-foliated plants arranged for effect there were three competitors, Mr. H. J. Jones, Ryecroft Nurseries, Lewisham, S.E., winning premier honours with a very rich and beautiful arrangement. The Chrysanthemums, which stood out lightly from the Crotons, Adiantums, Dracenas, and other plants, were arranged in a pretty undulating form and backed by fine pieces of Cocos Weddelliana. Emily Sibbury, a good new white, and Mutual Friend were seen in fine form among the Chrysanthemums. Mr. Wm. Wells, Earlswood Nurseries, Redhill, was a good second, his group containing a large number of highly-developed flowers, of which the following were particularly noteworthy: Thosa, Wilkins, Souvenir de Petite Amie, Reine d'Angleterre, Wm. Triquet Louise, and Surprise, a beautiful carmine-amaranth flower and very telling in the group. This exhibit lost points through a want of fine-foliated plants.

Twenty-four blooms of Japanese, not less than eighteen varieties, Mr. J. Agate, Havant, was placed first, he being the only exhibitor. The following varieties were good, viz., Graphic, Phœbus, E. Molynieux, Duchess of Wellington, Mrs. E. W. Clarke, Emily Sibbury, W. Seward, M. Giroud, Pallanza, Mrs. W. H. Lees, Mons. G. Birou, Duchess of York, Mme. Auguste de Lacivivier, Mme. Gust. Henry, and Mrs. J. Lewis,

Mr. Agate was also first for twelve Japanese, Princess May, Wilfred Marshall, Mutual Friend, and Parrot. Phœbus being worthy of mention. The second prize went to Mr. James Watt, gardener to Mr. N. H. Bell, Fitzjames's Avenue, Hampstead, N.W., with four blooms. Six incurred blooms brought out two competitors, Mr. Agate being placed first with M. E. Baham (four), Globe d'Or, and Perle Daphnénois, Mr. D. M. Hayler, gardener to W. H. Hannaforde, J.P., Tentenden Hall, Hendon, securing the second position. Six bunches pompons were represented by very indistinct specimens, Mr. E. Cowell, St. Mary's Cemetery, Harrow Road, N.W., being placed second. Five competitors entered for the two vases of Chrysanthemums, twelve blooms in each, confining the selection to large-flowered sorts, and arranged with suitable foliage. A handsome exhibit from Mr. T. Tullett, gardener to Mr. L. G. Alexander, Warley Lodge, Brentwood, secured premier honours. The blossoms were of good substance, colour good, and pleasingly arranged with autumnal foliage. Mr. J. Brooks, gardener to Mr. W. J. Newman, Park House, Totteridge, Herts, was a good second with smaller vases, yet handsomely arranged. For twelve Japanese, blooms open to amateurs only, two competitors staged exhibits, the first prize going to Mr. Martin Sibbury, Providence Shanks, Isle of Wight. His varieties were Ethel, Addison, M. P. Pankhurst, Phœbus, Sunflower, a pretty white seedling named Sweet-scent, and several good blooms of Emily Sibbury. The second prize went to Mr. W. Amies South Ashford, Kent, his best flowers being President Borel and Rose Wynne. For twelve Japanese, Mr. J. Knapp, gardener to Mr. L. F. W. Amesden, Chichester Road, Croydon, who had weak blooms, secured second prize. Quite a large display was made by competitors for a table of bouquets, wreaths, sprays, button-holes, &c., in which the decorative value of the Chrysanthemum was to be illustrated. The first prize was won by Mr. L. H. Calcutt, Fern Bank Nursery, Stoke Newington, N., with a very good table of designs so early in the season. A very elegant anchor in yellow Chrysanthemums, arranged with Crotons, Ferns and other foliage, was noticeable, as were the epergnes, arches and bouquets. Mrs. W. Green jun., The Nurseries, Harold Wood, Essex, was a very good second, the artistic work in this stand being exceptionally good. Unfortunately the Chrysanthemums lacked colour, and, with the poor light of the Aquarium, the effect was spoilt. The large arches were good, as also were the following: two hand-baskets, lyre, harp, anchor and wreath, all lightly arranged. The class for three epergnes made a charming display, the premier position being somewhat easily secured by Mr. B. C. Green, Archway Road, Highgate, N. In this exhibit the flowers were beautifully arranged; yellow, orange and crimson flowers blending tightly together. Bright pieces of annual foliage in conjunction with Croton leaves, golden Privet, Ampelopsis Veitchii, Asparagus plumosus and many bright pieces of colour of other subjects produced a very rich effect. The second place was secured by Mr. J. Gatehouse, Granville Nursery, Lewisham, S.E., with three stands arranged with mauve, white and yellow flowers—a rather incongruous combination. Five competitors entered for one vase of Chrysanthemums arranged for table decoration. In this Mr. D. M. Hayler was placed first, with a light, yet flimsy arrangement. The second prize went to Mr. E. Cowell for a pretty little vase of blossoms, in which pompons were freely used.

MISCELLANEOUS.

A silver medal was awarded to Mr. C. Shaw, Hall Street, Sherwood, Notts, for a large table of hardy border Chrysanthemums, containing about seventy good bunches. Good bright varieties were Lemon Queen, Bronze Dwarf, M. G. de Dubor, a very striking sort, and Edie Wright. In this collection Japanese and pompon sorts were seen in fine variety. Mr. W. Piercy, 89, Beadnell Road, Forest Hill, S.E., staged twenty-six bunches of capital hardy border sorts, in which the

colours were very bright. These were grown outside and not disbudded. A bronze medal was awarded this collection. Mr. H. J. Jones had a very large table, on which were set up about 170 bunches of zonal Polargoniums in a great variety of colour and form. These were arranged on a base of Adiantums, the contrast thus produced being very pretty. The most noticeable sorts were General Campbell, salmon; Mrs. William Walters, white; Edith Tabot, scarlet; Mrs. D'Onbrain, pale blush; Princess Alix, pale rose; Mrs. G. Brockman, white, veined carmine; Mr. H. Sherriff, centred, and Dr. Nansen, white. The centre of the table was decorated with a small group of useful and bright hardy border Chrysanthemums. For this collection a silver-gilt medal was awarded. Messrs. Dobbie and Co., Orpington and Rothsay, N.B., also secured a silver-gilt medal for fine representative collections of Dahlias and hardy Chrysanthemums. Of the former there were about 200 bunches, in which all types were represented. The lovely white Cactus Miss Webster, which the floral committee certificated, was included here. There were about 150 bunches of Chrysanthemums, in which Grace Attick and a charming pompon, Mr. Selby, were well shown. Mr. Norman Davie, Framfield, Sussex, had a large table of Michaelmas Daisies of a representative character. The most noticeable were Aster Amellus (very good), A. Robert Parker, A. floribundus, A. vimineus, A. Andromeda, A. acris, A. ericoides, A. versicolor Themis, A. cordifolia elegans, A. Circé, A. N. B. Maia, A. N. B. ruber and A. N. B. rosace. The bunches were of large size and carefully staged, and deservedly merited the silver-gilt medal awarded to them. Mr. S. Mortimer, Farnham, had about eleven dozen Dahlias, in which the show and fancy sorts predominated (silver medal). The same recognition was given Mr. W. S. Smith, gardener to Mr. S. Gardner, Mount Park, Harrow, for a grand collection of vegetables, which was thoroughly representative, and contained many individual dishes of exceptional merit. A silver medal was given to Mr. W. J. Godfrey, Exmouth, Devon, for a table of large Chrysanthemums, including Lady Kennaway, Majestic, Exmouth Yellow and Barbara Forbes (a good early white flower). A seedling Chrysanthemum Mrs. W. H. Hurley (orange-bronze) was very striking. This exhibitor also had a group of a well-grown Calla, named after the exhibitor, and twelve bunches Carnations. Mr. L. H. Calcutt was credited with a bronze medal for table decorations in stands of his own design. Mr. J. Williams, Ealing, arranged a table with his pretty little "Rural" designs. Messrs. H. Cannell and Sons staged a superb group of Cannas. These were prettily arranged with fine-foliated plants to contrast with the highly-coloured flowers of this subject. The Cannas were Sou. de A. Crozy, Mme. Crozy, Queen Charlotte, very fine; Paul Lorenz, rich colour; Comte de Bouchard, Aurore, and many others. Mr. W. Davies, gardener to Mr. Darnell, Devonshire House, Stamford Hill, N., put up a striking group of highly coloured Crotons, backed with Palms in good condition, and edged with Adiantum cuneatum, for which a silver medal was awarded; Mr. T. S. Ware filled the north fountain with Dahlias in all forms, making a pleasing addition to the appearance of the building. He also received a silver-gilt medal. Messrs. J. Cheal and Sons, Lowfield Nurseries, Crawley, Sussex, had a table filled with about 100 bunches of Dahlias, pompons, single Cactus, show, fancy, and Cactus forms being beautifully illustrated. A nice collection of Apples and Pears completed a bold arrangement. Of the Apples, Bismarck, Jubilee, Newton Wonder, Pott's Seedling, and Frogmore Prolific were in capital condition (silver-gilt medal). Mr. H. Berwick, Sidmouth Nurseries, Devon, had a large table of Apples and Pears which were very fine, and well merited the distinction of a silver-gilt medal. Of the Apples, Cox's Pomona, Reinette du Osnabrück, Warner's King (grand), Golden Noble; Pears, Beurré Diel, Duchesse d'Angoulême, Pitmaston Duchess (superb), and Grosse Calabasse were magnifi-

cent specimens. Messrs. J. Laing and Sons received a similar award for a large table of Apples and Pears, the centre of the table being arranged in the form of a cone, with two smaller cones at either end. The best of the Pears were Duchesse, Durondeau, Beurre Claireau, and Doyenné du Comice. A small table of plants contained some pretty specimens of *Saxifraga sarmentosa* tricolor superba. Messrs. S. Spooner and Sons, Hounslow, also staged a nice collection of Apples and Pears, and received a silver medal. Messrs. W. Gaymer and Sons, Attleborough, Norfolk, had a large pyramid of cider Apples, and for this they received a silver medal. Mr. Chas. Turner, Slough, had a nice lot of new Cactus as well as pompon Dahlias. Three of the Pompons, viz., Dagmar, dark velvety maroon; Clarissa, light primrose; and Guinevere, each received a first-class certificate. A pretty salmon-pink Cactus Iona is a good thing in this type. The Icthemie Guano Co. made a floral display on the southern fountain which was much admired. Mr. Will Taylor had three bunches of Reine Olga Grapes, ripened outdoors, and with good-sized berries. Mr. John Watkins, Withington, Hereford, secured a silver medal for a large collection of cider Apples.

A meeting of the floral committee was held on the same date, Mr. T. Bevan presiding. First-class certificates were awarded as follows:—

CHEYSANTHEMUM. MR. GUSTAVE HENRY.—A very large now white Japanese with narrow, twisted and incurving florets. From W. Wells.

CHEYSANTHEMUM. SUPERBIA.—A Japanese of good size and substance, florets rather broad; colour deep purple amaranth, with silvery reverse. From W. Wells.

Other novelties submitted included Snowdrift, a large white Japanese; Mrs. Caterer, a fine white Anemone, with very long guard florets and good disc; Exmouth Yellow, very pure in colour and of the Japanese section, all of which the committee wished to see again; M. J. Bte. Cauvin, also a Japanese flower, deep carmine crimson was commended. Promising novelties of recent introduction, such as Ambroise Thomas, Lady Grey, Majestic, Francois Vuillermet, &c., were staged, and also several varieties of Dahlias and other subjects.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 13.

A MEETING full of interest and variety was that of Tuesday last. Each of the committees had their fair share of work, the several exhibits before each necessitating a deal of careful examination. For the season there was a good attendance of members.

The exhibits before the Orchid committee were more numerous than usual, whilst of new hybrids and choice introductions and rarities there was no deficiency. The gold medal of the society was never more worthily voted than on this occasion to the superb specimen of *Vanda Sandiana*, from Mr. Gurney Fowler's collection at Woodford. It was a grand plant bearing no less than 120 perfectly developed flowers of large size, each measuring about 3½ inches across; originally there were 137 flowers on it. To Cattleya gigas Countess of Derby the silver medal was awarded. It is a lovely form. Several beautiful examples of Cattleya aurea were staged, and so also were hybrids of Cattleya and Laelia, and these of the choicer character. Vanda coerulea was in one instance a wonderful example of cultivation.

Before the floral committee there were varied subjects, hardy flowers predominating, notably Michaelmas Daisies, one immense exhibit coming from Aldenham Gardens. Pot examples in a dwarf state were also sent from Gunnersbury House. Mixed cut flowers and berries were also to be seen. Dahlias still hold out, and that in admirable condition, Cactus, pompons and singles being represented, but singular to say only a few shows or fauces. Roses were shown from Colchester and Oxford, the former exhibit

being by far the more extensive; these were shown in bunches and comprised the very best of autumnal kinds, both of Hybrid Perpetuals and Tea-scented. The Knap Hill variety of the Scarlet American Oak was to be seen at its best, the colouring most intense. Cannas in a cut state and Ferns (*Adiantum Farleyense*) were sent respectively from Swanley and Edmonton, both being first-class exhibits.

The display before the fruit committee was a very full one also, but although no large exhibit came from trade growers, amends were made for this by the 100 dishes of remarkably fine Apples and Pears from Syon House, whence Mr. Wythes sent the best of each kind; most notable was Pear Beurre Diel, very large fruits, perfectly developed, and, too, from trees no more than four years old; two other good sorts were Soldat Labouré and Beurre Claireau, and of Apples there were fine examples of Cox's Orange, Golden Winter Pearmain, Wealthy, Golden Noble, and Blenheim Orange.

There was an extensive display of fruits and vegetables which set up from Amphibia by Mr. Empson; this made a fine exhibit in every way. Of other vegetables there were six dishes of Peas in good condition, from Gunnersbury House.

Orchid Committee.

First-class certificates were awarded to the following:—

CATTLEYA TRIUMPH.—The result of crossing Cattleya speciosa and C. Lawrenceana. The sepals and petals are lilac, of good form and substance, lip rose-lilac with a blotch of purple in the centre and shading to white in the throat. In general character the flowers bear a striking resemblance to those of Cattleya Lawrenceana, but are larger. From Mr. C. J. Ingram, Elstead House.

CATTLEYA APOLLO.—The result of crossing C. Mossiae and C. Andicola. The sepals and petals are broad, of good shape and substance, the colour rose, suffused with a bronzy shade and streaked and spotted with rose-purple; the lip rose-purple in front, shading to a light rose at the base, lined and suffused with yellow in the centre. This is a fine addition to this family of Orchids. Messrs. J. Veitch and Sons, Chelsea.

CATTLEYA DOWIANA (Wheatley's var.).—A distinct and desirable form, differing from the typical variety in its having pure white sepals and petals, the front of the lip velvety-crimson shading to deep yellow on the side lobes, the centre being lined with crimson and golden-yellow, as in the typical species. From Mr. F. Wheatley, Ringmore, Teignmouth, Devon.

CATTLEYA LABIATA AUTUMNALIS VAR. MRS. E. ASTOR.—In this the sepals and petals are pure white, of good form and substance, the lip white, suffused in the centre with purple and veined with a darker shade, the side lobes white, shading to yellow and lined with purple at the base. The plant carried a spike of three flowers. It is one of the most remarkable varieties of the old autumn-flowering C. labiata, having been seen. From Mr. E. Astor, Harefield Hall, Cheshire.

Awards of merit were given to:

CATTLEYA. ECLIPSE.—A hybrid between C. maxima and C. Skinneri, the sepals and petals deep rose, the lip having a distinct broad margin of deep rose, the centre heavily suffused and lined with crimson-purple, which colour extends well into the throat, which is suffused with yellow at the base. A very distinct and desirable variety. From Mr. C. J. Ingram.

CATTLEYA. JUPITER is the result of crossing Cattleya Lawrenceana and C. gigas Sandiana; sepals and petals bright rose, the lip purple in front, margined with rose, the upper lobes bright rose, shading to white, with a tinge of yellow, and lined with purple at the base. It has the character to a great degree of Cattleya Lawrenceana in the shape of the lip and habit of growth. From Mr. C. J. Ingram.

CYPRIOPEDIUM CHARLESWORTHII (Low's var.).—This differs from the typical forms in the huge size of the dorsal sepal, which was over 3 inches

across, the colour rose, mottled and shaded with white. The petals and lip were large in proportion, pale green, lined and suffused with brown. We have not seen a variety that can be compared with this in size. Messrs. Hugh Low and Co.

COPARETTIA SPECIOSA.—A charming variety of this quaint Orchid, with bright orange-scarlet lip, petals and sepals of the same colour, lined with dark brown. The plant bore three spikes. From Mr. A. H. Sme.

A gold medal was awarded to Mr. Gurney Fowler, Gleclands, South Woodford, for an enormous specimen of *Vanda Sandiana*. The plant had eight growths, eleven flower-spikes, and 126 flowers fully expanded. The flowers were of extraordinary size, the sepals each measuring 5 inches across, and the petals 4 inches. A coloured plate of this noble *Vanda* was published in THE GARDEN, vol. xxv., p. 104, from the first plant which flowered in this country in the collection of the late Mr. W. Lee, Downside, Leatherhead. Mr. Fowler's plant was imported by Messrs. Hugh Low and Co. through their collector, Boxall, and is the grandest specimen we have seen. A silver Banksian medal was awarded to Mr. T. Statter, Stand Hall, Manchester, for *Cattleya Warcewiczii* Countess of Derby, undoubtedly one of the grandest *Cattleyas* in cultivation. The sepals and petals are pure white, the front of the lip velvety crimson, the side lobes crimson on the edges, shading to white and yellow towards the centre, the base being lined with crimson. Messrs. J. Veitch and Sons were awarded a silver Flora medal for a remarkably fine group consisting of five forms of *Pyripediums* in variety. One of the most distinct amongst these was C. Arthurianum, a cross between C. cinnabarinum and C. fasciatum. The flowers are smaller than in the typical form, but the dorsal sepal is more thickly spotted and shows the influence of C. insignis Chantini in the purple spotting on the white. Several remarkable forms of *Cattleya* and *Laelia* *Cattleyas* were also included, prominent amongst these being a two-flowered L.C. *Nysa* (*gigas* × *crispa*); sepals and petals delicate rose, lip dark crimson in front, shading to delicate rose on the side lobes, and margined with the same colour. *Cattleya Muneca* is a cross between C. Lodigiani and C. gigas; sepals and petals pale rose, lip white in front, shaded with rose, with a lemon-yellow disc in the centre. A four-flowered spike of *Cattleya Mantii* i certificated last year, C. porphyrobiepha, a cross between C. intermedia and C. superba, and *Cologne* Veitchi, with three spikes, were also included. Messrs. F. Sander and Co. were awarded a silver Banksian medal for a small group, consisting of finely flowered plants of *Vanda corollina*, *Habenaria Susanae*, a fine plant of *Calanthe vestita lutea* (Sander's var.), *Laelio-Cattleya* The Hon. Mrs. Astor, and several good forms of *Cypripediums*. Messrs. Hugh Low and Co. were adjudged a silver Flora medal for a small group, in which were a fine plant of *Cattleya porphyrobiepha* with two flowers, several spikes of *Cattleya austera*, *Oncidium ornithorhynchum* album, *Cypripedium Jamesii* Buckingham, several very well-flowered plants of *C. Charlesworthii*, C. Schneideri and a good form of C. Chas. Canham. Messrs. B. S. Williams and Son sent a group (for which a silver Banksian medal was awarded), consisting principally of finely-flowered plants of various *Cypripediums*, amongst which were some good forms of C. Arthurianum, a grand specimen with eight spikes of *Oncidium ornithorhynchum* album, several good forms of *Cattleya labiata*, C. Blessemensis (*pumila* × *Loddigesii*), a fine plant of *Reinanthera Lowii* and several forms of *Vanda tricolor*. Mr. C. N. Ingram, Elstead House, Godalming, was adjudged a silver Flora medal for a group of new hybrid *Cattleyas* and *Laelio-Cattleyas*, consisting of L.C. T. W. Bond, a cross between C. labiata vera and L. purpurata, and L.C. *Gazzelle* Turneri, previously raised on the Continent and exhibited in England under the name of L.C. *Andreae*. The sepals and petals are white, shaded with rose, lip deep crimson.

Cattleya Fabia (Dowiana aurea crossed with C. labiata vera) has the sepals and petals rose, lip rose purple, shading to yellow towards the centre and throat, the latter lined and shaded with brown-purple. L.-C. Firefly is a distinct variety, the result of a cross between C. Dormaniana and Cattleya Bowringiana. Mr. Ransden, Shamley Green, was given a cultural commendation for a remarkably fine variety of Vanda coriacea with two spikes, carrying twelve flowers each. Mr. G. S. Ball sent a remarkably fine flower of Cypridium insigne Sanderae. It was one of the finest flowers we have seen. Mr. De B. Crawshay sent Odontoglossum Uro-Skinneri album, pale greenish yellow sepals and petals, and a pure white lip.

Floral Committee.

First class certificates were given to:—

AGLAONEA CURTISI.—A distinctly handsome plant, and one that should prove valuable for decoration. The leaves are stout and of good substance, semi-erect in growth, of a pale green on the reverse, slightly darker on the upper side, with blotches and veinings of silvery white. The leaf stalks are some 9 inches or 10 inches long, and the plant nearly 2 feet in height. From Messrs. J. Veitch and Sons, Chelsea.

PERON CHILDIS (new hybrid or sport) which shows its affinity to P. cretica or P. serrulata, the fronds are stout, the growth compact, the colour a pale green. The most distinct features, however, were the broad pinnae, which were also deeply toothed and tessellated towards the edges, quite in the way of a fringe; one a regrettable feature, however, is its non-fertile proclivities. From Mr. F. Childe, of New Eltham.

Awards of merit were given to—

SALVIA SPLENDENS GRANDIFLORA.—A greatly improved form both in habit and profusion of flower as well as in the colour, an intense and vivid crimson, with the spikes very close and compact; the foliage, too, is of a darker shade, a decided acquisition. From Sir Trevor Lawrence (gardener, Mr. Bain).

LOELIA GERARDI.—A dense and long-spiked variety, with lavender-blue flowers, which are freely produced. From Sir Trevor Lawrence.

ASPLENUM HERBSTI.—A compact-growing and distinct Fern with pale green fronds and large pinnae, unequally divided; it has the appearance of being a good decorative Fern. From Mr. H. B. May, Dyson's Lane Nursery, Edmonton.

BEGONIA METALLICA REGINA.—A variegated form of this well-known species, the variegation consisting of unequal blotches and marblings of creamy white. From the Baroness Burdett Coutts (gardener, Mr. Jesse Willard).

NERIUM NOVUM.—A bright pink variety, with fairly large flowers and trusses, the individual blossoms not so much reflexed as in many. From Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

CHrysanthemum (JAP.) MM. GUSTAVE HENRY.—A large exhibition variety, the colour a milky white, the petals incurving and toothed, the flowers very full. From Mr. W. Wells, Earlswood.

DAHLIA (CACTUS) MRS. KINGSLEY FOSTER.—A very distinct and novel colour—a shade of pale orange or bright cinnamon; a true Cactus, and with narrow petals. From Messrs. J. Cheal and Son, Lowfield Nursery, Crawley.

DAHLIA (CACTUS) OPHELIA.—An orange scarlet, bright and distinct, large and full; true Cactus form. From Mr. Chas. Turner, Slough.

DAHLIA (POMPON) CLARISA.—A pale sulphur-yellow, full and of good form. From Mr. Chas. Turner.

DAHLIA (POMPON) GERALDINE.—A golden yellow with orange-coloured tips, bright and novel. From Mr. Chas. Turner.

DAHLIA (SINGLE) MISS KATHLEEN GOSCHEN.—A purplish crimson, with white through the centre of each petal, distinct and showy. From Messrs. J. Cheal and Son.

DAHLIA (SINGLE) MISS HUDSON.—A soft shade of pink with white tips, markings as in Dearlest, to which it should be a good companion variety. From Messrs. Cheal and Son.

An excellent collection of Dahlias, Cactus, single, and pompon varieties, was staged by Messrs. J. Cheal and Sons, Crawley. All were in remarkably good condition considering the time of year, but perhaps the singles were the best. Among them were fine bunches of The Bride, Cleopatra, Duke of York, Harry Braten, W. C. Harvey, Eclipse, and Fred Leslie. Good bunches of Cactus were Kentish Invicta, Mrs. Kingsley Foster, Harry Stretwick, and Bertha Mawley. Of the pompons, Fabio, Rosebud, Nerissa, and Sovereign were good. Fine bunches of Mr. Anthony Waterer, Knap Hill Nursery, Woking, Surrey, sent a host of seedling Petunias, all very thickly horrid and containing some very pretty and attractively coloured varieties. Some brilliant and remarkably fine Cannas were shown by Messrs. Cannell and Sons, Swanley, Kent, who also put up for certificates some new Japanese Chrysanthemums, the finest of which were Vice-Admiral Kerakoma, a very lovely golden yellow, tinted with bronze; Robert Powell, a broad-petaled star, dull buff and chocolate; and Mrs. J. E. Lawton, rose lilac, rather shapeless. A group of miscellaneous cut flowers comprising Dahlias, Gloriosa, Chrysanthemums, and Aster, was exhibited by Messrs. Young and Dobinson. Mr. Jas. Hudson, gardener to the Messrs. de Rothchild, Gunnersbury House, Acton, sent a group of Michaelmas Daisies, grown as very dwarf plants in small pots. They were all flowering with great freedom. The best variety for this style of cultivation is Robert Parker (bronze Flora medal). A very charming group of Adiantum Farleyense, consisting of some twenty or more splendidly grown plants was shown by Mr. H. B. May, of Edmonton, who also sent a pretty basket of the new Begonia, Gloire de Lorraine (silver Banksian). A group of very beautiful cut Roses, admirably staged in tiers on black velvet, was shown by Mr. George Pringle of Longworth, (silver Banksian). A prettily staged bunch of Chrysanthemums, with a groundwork of Maiden-hair Fern, was shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. Some good varieties for decoration were represented (bronze Banksian).

From Messrs. Barr and Sons, Covent Garden, came a large group of hardy flowers, chiefly Chrysanthemums, including some very beautiful things and a few curiosities. A large bunch of Aconitum autumnale was striking. Helenium autumnale grandiflorum was well shown, also Anemone japonica elegans, Astrantia major, Aster ericoides, A. cordifolius elegans, A. pulchellus, A. Coombeshaire, and A. N. B. Ellis. The Chrysanthemums included Mrs. A. J. Parker, a charming flower of deep flesh colour and yellow; Golden Drop, and Mrs. Selby, dull pink (bronze Flora). A magnificent collection of Asters came from Mr. Beckett, gardener to Rt. Hon. H. H. Alderman, Elstree, and comprised fifty or more varieties. They were all in fine condition (silver-gilt Banksian). Some handsome specimens of the Scarlet Oak came from Mr. Anthony Waterer. Messrs. Veitch and Sons sent a nice box of their beautiful Rhododendron javanicum-jasminiflorum hybrids and a basket of box specimens of Amazonia punicea. A collection of very handsome Japanese Chrysanthemums was staged by Mr. W. Wells, Redhill. Small and imbedded fine examples of Hair's Wonder, Louise, a beautiful white; Surprise, rich purple; and Graphic (bronze Banksian). A magnificent collection of cut blooms of Roses was staged by Mr. F. Cant, Colchester. Considering the lateness of the season, these blooms were really marvellous. From Mr. Chas. Turner, of Slough, came a group of seedling Dahlias, including Clarissa, a good lemon-yellow, and Psyche, rich bronze. The delightfully scented light coloured Violet St. Helena was also shown.

Fruit Committee.

The exhibits before this committee were of excellent character, and though no awards were made in the shape of certificates, some of the seedling Apples were very meritorious. The very large collection of vegetables, fruit and nuts from

Amphill was a noteworthy exhibit, as also were hardy fruit from Syon House and some half-dozen varieties of Peas in fine condition from Gunnersbury House. Mr. W. Empson, gardener to Mrs. Wingfield, staged a bunch of excellent vegetables and fruit in variety. Carrots were shown in ten varieties, and were very fine examples, being clean and of perfect shape. There were some grand Maltese Parsnips and Prizetaker and Model Leeks. Onions also being very fine; Cauliflower were rather too large for table; Celery was not large, but of good quality, the variety being Standard-bearer. Salads were well represented, Duke of York Tomato being very fine. Grapes were good, the Black Alicante and Golden Queen being well finished. There were some fine Medlars, with Apples, Pears, Quinces, Melons, Nuts in variety, and Oranges. The gold medal awarded was well deserved. From Earl Percy, Syon House, Brentford (gardener, Mr. Wythes), came 100 varieties of Apples and Pears, nicely arranged with coloured leaves against a background of fine-foliated plants. Pears were shown in grand condition, being noticeable for their clear skins and absence of roughness. There were very fine examples of Beurré Diel, Beurré Clairgeau, Beurré Bacheleur, B. Superfin, Beurré Bourré, Doyenné du Comice, Etalle d'Heyst, Durondeau, Marie Louise, Marie Benoist, Nouvelle Fulvie, and Beurré Balist. Of the newer varieties there were Princess, Magistrate and Conference, with excellent examples of Uvedale's St. Germain, Catillac, Verlum and Bellissima d'Herive. The Apples staged were excellent, both dessert and cooking being well represented (silver-gilt Knightbridge medal). Mr. Hudson, Gunnersbury House, Acton, sent some two dozen fine fruits of the Newton Wonder Apple from trees planted scarcely two years, receiving a cultural commendation, the same awr being given for some half dozen varieties of Peas in quality equal to midsummer sorts, Bountiful, A. I. Duchesse, Empress of India, Criterion and William I. were the varieties staged. Sir Trevor Lawrence, Bt. (gardener, Mr. Bain), sent a new French Celeriac, a dwarf, much variegated form, also the old type for comparison. This was asked to be sent to Chiswick for trial. Mr. Wythes sent a new seedling Potato, a late variety named Syon Maincrop, which was asked to be sent to Chiswick for trial. Mr. Green, Wisbech, sent a kidney Potato, Green's Surprise; this was referred to Chiswick for trial. Mr. Tallack, gardener to Mr. E. Dresden, Livermere Park, Bury St. Edmunds, sent a promising Apple, Livermere Park Favourite, a very excellent fruit, but not quite at its best. This will be shown again in a riper state. Mr. Ross, Welford Park, Newbury, sent two very good seedling Apples—Surprise from Northern Spy, and Rose Peasant from Garden Reinette. The committee desired to see them again. He also sent a new Pear, the Popham. From Messrs. Laing and Sons, Forest Hall, came several new Apples. Mr. Hall, Sunderland, sent an Apple, but it was too much like Cellini to be considered distinct. Mr. G. Lovelock, Normanton Park Gardens, also sent a new nice-looking dessert Apple. A new black Muscat Grape named Lady Hastings was sent by Mr. Shingles, Melton Constable Gardens, but the bunch sent had been damaged in transit. Three varieties of Grapes came from Mr. Maher, gardener to Mr. A. Waterhouse, Yattendon Court, Newbury. Melons were sent by Mr. Harris, gardener to Mr. P. Crowley, Whaddon House, Croydon, and Mr. G. Fulford, West Park Gardens, Salisbury, and a new fruit jelly of first-rate quality from Mr. R. L. Proudflock, the Government Botanic Gardens, Ootacamund.

The prizes for Pears and Apples offered by the Messrs. Veitch, favour to be the chief test, brought forth a strong competition, eight exhibitors staging for Apples. Mr. Wythes, Syon, was first with very fine Cox's Orange, grown on bush trees on Paradise stock, and Mr. Herrin, Dromore, second, with Ribston Pippin from a standard. For Pears, Mr. Herrin was first with excellent Doyenné du Comice from a wall tree on

the Quince, Mr. Powell, Islington Gardens, Dorset, being second, with Thompson's, also from a wall tree on the Quince.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE tenth annual dinner of this flourishing institution was this year held at the Hobson Restaurant, on Wednesday, October 7, Mr. W. J. Nutting (of the firm of Messrs. Nutting and Sons, Barbican, E.C.) being in the chair. Among friends and supporters of "The United" we noted Sir Clarence Smith, Messrs. Baker (Thames Bank Iron Company), J. G. Veitch, A. F. Barron, G. Ingram, H. J. Laing, G. Wythes and H. B. May. Over a hundred sat down, and we have no doubt but that, had the weather been favourable, the company would have been more numerous.

The usual loyal toasts having been given, the chairman proposed "The United Horticultural Benefit and Provident Society," congratulating the members on its success. The society in 1870 had only forty-two members, but now there are on the list 651 members—an addition of 84 since the last dinner. In the year 1870 only £162 stood to its credit, and now there was a sum of £10,000, which, according to the present market value, was equal to £13,600. On looking through the books, he found that one member had just withdrawn £2 10s., the actual sum paid by this member having been £57 6s. 9d., the interest from 1870 (the date of his joining) amounting to £28 7s. 9d. Mr. Nutting called special attention to the convalescent fund, which was started by Mr. N. Shrewsbury, who sent his usual donation of £5 5s. and also asked the members to add his name to the subscribers to the fund. He proposed the toast with the name of Mr. J. Hudson, the secretary, who, in replying, said that the society aimed at self-help, and he hoped that these annual reunions would be the means of additional members joining. The society this year had been able to increase the sick pay from 16s. to 18s. on the higher scale of payment, viz., 9d. per week, while to those who pay the lower scale, viz., 6d. per week, the sick pay had been increased from 10s. to 12s., and this without any addition to the members' weekly subscription. Mr. Nathan Cole, in proposing "The Honorary Members, Life Members, and Visitors," coupled the toast with the name of Sir Clarence Smith. Mr. Cole said that to the honorary and life members the society owed a great deal. The benevolent fund, which has been largely assisted by them, has been instrumental in alleviating many cases of distress, and he hoped that the list of honorary members would be still further increased. Sir Clarence Smith in felicitous terms replied to this toast, and in doing so referred to the moneys of the society, which were carefully invested by the trustee. He considered the United a thoroughly sound and well-conducted institution, and strongly impressed on all gardeners the necessity of at once becoming members. Mr. J. H. Veitch also spoke, after which Mr. H. B. May proposed "The Chairmen," who briefly thanked the meeting for their acknowledgement of his services, adding that Mr. May had kindly consented to preside at the annual reunion in 1897. Mr. Wheeler then proposed "The Press," to which toast Mr. Gordon, of the "Gardener's Magazine," replied.

Thanks are due to Messrs. Segar and Wills, B. S. Williams and Son, Cannell and Sons, and John Laing and Sons for the plants and flowers for the table, and also to Miss Hudson, who decorated the tables with flowers and coloured foliage in a tasteful manner.

Gardeners' Royal Benevolent Institution.

—We understand that Lord Rothschild will preside at the fifty-eighth anniversary festival dinner, to be held some time in June next year, in aid of the funds of this excellent charity. June next being the month in which, if spared, the Queen—who for a number of years has been the gracious patroness of the institution—will complete the sixtieth year of her prosperous reign, we trust

that under such propitious, happy auspices Lord Rothschild will be enthusiastically supported on the occasion, and the charity's funds greatly augmented by his influence and services in its behalf.

OBITUARY.

MR. P. WHITTON.

We regret to announce the death of Mr. P. Whitton, a well-known Scotch gardener, on October 5, in the seventy-sixth year of his age. He had been at Methven Castle, near Perth, for nearly fifty years. Mr. Whitton was a good all-round gardener and a member of the Royal Scottish Arboricultural Society, and there is strong evidence of his love of trees and shrubs at Methven in the fine collections seen there. Many fine specimens, now over 60 feet high, were planted by him from cuttings propagated by him. The Cedrus Decidua avenue, commonly called the Simla walk, from the fact that the plants were raised from seed sent home by Earl Elgin, when Viceroy of India, to his cousin, Mrs. Smythe, and raised by Mr. Whitton, enhanced its beauty and interest very much. His funeral was attended by many gardeners from all parts of Perthshire and adjoining counties. Of Mr. Whitton's five sons, two followed their father's profession, one—James—now being the superintendent of the Glasgow public parks, and the other the manager of a tea plantation in India.

BARON SIR FERDINAND VON MUELLER.

THE name of Baron Sir Ferdinand von Mueller, K.C.M.G., F.R.S., the eminent Government botanist of Victoria, Australia, has been intimately associated with the progress of science and exploration in Australia, and especially with the development of its vegetable resources. He was born at Reckow, in Germany, in June, 1823. He obtained a training in pharmacy, and in his leisure time devoted himself to the study of botany and chemistry. In 1846 he studied at the University of Kiel, where he took the degree of Ph.D. For several years he investigated the botany of Schleswig and Holstein. In 1847, in order to counteract a hereditary tendency to phthisis, he emigrated to Australia, and at once entered upon the exploration and development of the continent which have only ceased with his death. From 1848 to 1852 he travelled over 4000 miles mainly for botanical purposes. In 1852 he was appointed Government botanist to the colony of Victoria. In 1855-56 he accompanied as botanist the expedition under the command of A. C. Gregory for the exploration of North and Central Australia, and was one of the four to reach Termination Lake, in Central Australia. Some 6000 miles of previously unknown land were traversed, and collections made of the various forms of vegetation.

On Mueller's return to Melbourne he was appointed director of the Botanic Garden of that city. In this office he rendered immense services not only to Australia, but to many other countries. He had a leading hand in introducing that most useful of Australian trees, the Eucalyptus, into Algeria and elsewhere, and also first to a few of the great Victoria Regia Water Lily. Not a few Australian industries are largely indebted to him for their development. It was also partly due to his suggestion that the camel was introduced into Australia and first used for exploring in 1860. His own travels in Australia for botanical purposes, on foot and on horseback, covered some 25,000 miles. After he had ceased, owing to his official duties, to be able to travel, he had a directing hand in many of the important expeditions that went out from Victoria as well as other colonies.

In recent years Baron von Mueller was greatly interested in the promotion of Antarctic exploration. He was a voluminous author, the titles of over a hundred papers by him being given in

the Royal Society's list. His "Fragmenta Phytographie Australis" covers about a dozen volumes. He co-operated with the late Mr. Bentham in compiling the "Flora Australiana," which extends to several volumes. He is also the author of works on the "Plants of Victoria," on Eucalyptus, and other botanical subjects. Few men have received so many honours as the late baron. He was made a Fellow of the Royal Society in 1861, and in 1888 the society awarded him one of its Royal medals. He had been a Fellow of the Royal Geographical Society since 1858. Personally, Baron von Mueller was a man of a warm heart and great kindness of nature. He was a voluminous correspondent, ever ready to help his friends, and has rendered services of a high order to Australia, in the history of the advancement of which he cannot but be remembered.—Times.

The weather in West Herts.—A week of changeable weather as regards temperature. For instance, on the 3rd inst. the highest reading in shade rose to 62°, but two days later never exceeded 53°. Again, on the night of the 2nd the thermometer exposed on the lawn fell only to 53°; whereas on several other nights the same thermometer showed readings within a few degrees of the freezing point. At 2 feet deep the ground is now 2°, and at 1 foot deep 1° above the October average. Some rain has fallen on each day as yet this month, the total measurement amounting to about 1½ inches. The winds were, as a rule, high, and came almost exclusively from some westerly point of the compass. On the 5th the sun shone brightly for 8½ hours, but on no other day this month has the record reached an hour.—E. M., Berkhamsted, October 10.

The weather remained warm until the 11th, when a considerable fall in the temperature took place. On the 9th the highest reading in shade was 61°, but on the 12th the shade temperature never fell higher than 45°. During the night preceding the 8th the thermometer exposed on the lawn fell only to 47°, but since then all the nights have been cold, and on one of them the same thermometer showed 2° of frost. At 2 feet deep the ground is now about 1° colder, and at 1 foot deep about 2° colder than the October average. Since the month began rain has fallen on ten days, to the total depth of 2 inches. There was a heavy downpour for a short time about 7.30 a.m. on the 10th, when for five minutes the rain was falling at the rate of over an inch an hour. There has been very little sunshine as yet this month, the average daily record only amounting to 23 hours, but in this respect the past week shows a great improvement on the previous one.—E. M., Berkhamsted.

Theobroma Cacao (*W. D. Beckett*).—There are no signs of fungoid disease on the Cocos leaves sent, nor are the blotches due to the attacks of insects. It is not unusual for *Theobroma* to be affected in this way under cultivation in this country. Some defect in the conditions—i.e., improper soil, inefficient drainage, excessive moisture or insufficient light—may cause the blotches.—W. W.

Grub on Apple tree.—Can you give me the name of enclosed insect; it was taken from an Apple tree?—OAKEN-HEAD & CO.

* * * The caterpillar you send is that of the pale tussock moth (*Dasychira pudibunda*), a common insect. The caterpillars feed on various trees and are sometimes common in Hop gardens, where they are known as "hop dogs."—G. S. S.

Names of plants.—*W. B.*—*Calanthe veratrifolia*.

Names of fruit.—*Constant Reader*.—Apples, 1, probably Granadilla; 2, Red Astrachan; 3, King of the Pines; 4, Emperor Alexander; 5, Lady Henrietta; 6, Northern Greening; Pears, 1, Pittimaston; 2, Beuric Rance; 3, Beurré Bachelier; 4, Beurré Diel; 5, Marie Louise d'Uccle; 6, probably Beurré Hardy; 7, Beurré Bosc; 8, Easter Beurré.—*Edward Williams*.—Apple Hambledon Deux Ans.

THE GARDEN.

No. 1307. SATURDAY, October 24, 1896. Vol. L

*"This is an Art**Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.*

ORCHARD AND FRUIT GARDEN.

FORCED PEACH TREES AND
MOISTURE.

THAT forced trees frequently suffer from want of moisture at the roots is well known to most growers, and in many cases the fault of dry roots is not intentional, as the surface, from daily syringing, may be moist when the roots lower down are very dry, thus causing bud-dropping. Since I have paid more attention to moisture after the crop has been cleared, the trees have suffered but little from bud-dropping. It is surprising what quantities of water Peach borders will absorb after the crop is cleared. As most growers are aware, it is the earliest forced trees which drop their buds. In many cases Chrysanthemums are placed in fruit houses at this season, and some cultivators may think the moisture from the frequent watering of the plants is sufficient for the roots. Doubtless such is the case at the season named if there has been no previous neglect, but in many cases, owing to free drainage, the trees have suffered and the fruit-buds are not well developed in consequence. Not only is a thorough watering conducive to a full crop of bloom, but I am of opinion that with the roots always active dryness should never be allowed, and at the fall of the leaf it is as important to keep roots healthy as at other seasons. Recently having to make some alterations in a Peach house necessitating removal of young trees only planted two years, but which had made a splendid growth, I was surprised to find the lower portion of the border dust dry, though the house had been hoed freely and abundance of water, as I thought, given. The surface was hard in consequence of having to use the border to stand other plants on, and the moisture given had run away in a certain direction. Had these trees cast their buds I feel sure no one would have imagined the cause. This I note to show how soon one may be deceived, and the importance of ascertaining if the moisture given has reached all parts of the border. With young or vigorous trees and a light soil more moisture is required, and I would strongly advise loosening the surface in the case of hard or trodden ground to admit the moisture freely. One year I lost a great portion of a crop of Cherries simply because the roots of the trees some distance down were in such a dry state. I have been more careful of late years. Doubtless, owing to the great heat and scarcity of moisture earlier in the season, Peach trees this year will need more care to prevent bud-dropping. Given ample supplies of water there should be grand crops next year, as the wood is firm and the buds prominent.

S. H. M.

Apple Professor.—Has any experience with this Apple, or know anything of it? I have two young trees in fruit, and it appears to be a good variety, being of good size and excellent quality. Its value lies in its hardness, as with me it stands for a long time in the latter part of July and early in August, before Keswick Codlin or Ecklinville Seedling. From what I can see, Professor seems to be a more desirable variety to grow than Keswick Codlin.—A. YOUNG.

Pear Triomphe de Vienne.—A bush tree of a Pear, received under this name, which was planted

about four years ago, has during the last two seasons produced some exceedingly fine fruit. This year the eight fruits borne weighed exactly 8 lbs., the largest turning the scale at 18 ozs. In 1895 the same number, of the same total weight, were borne, but the largest individual fruit weighed as much as 26 ozs., the rest ranging from 13 ozs. to 15 ozs. I have not on either occasion tasted the fruit, and so cannot speak as to its flavour. In appearance it is strikingly handsome, and, as "C. C. H." infers, ripens in the open during September.—S. W. F.

Apple Golden Reinette.—This old favourite is likely to be lost sight of in the race for big fruits. It is one of the best Apples as regards flavour and may be classed as equal to a Ribston if the fruits are well grown and not gathered too soon. In colour and size it much resembles King of the Pippins, and for dessert it is superior owing to its long keeping and better quality. My trees are old standards, and grown thus the fruit colours grandly. I admit, as regards size, it cannot compare with those from smaller bush trees, but standard trees crop grandly in most districts, and the fruit may be kept till March in a cool store. I have noticed that the varieties known on the Paradise stock in dwarf form do not keep so well as from standard trees. In some mild districts the fruits have a few russet markings and it is known as Russet Pine, but I find the golden colour free of russet is the most liked.—W. B.

Apple Golden Winter PEARMAIN.—I recently saw some very nice fruit of this variety. I used to grow it largely in the west midland district and it was noted as ever-bearing, in fact equal to King of the Pippins, which it closely resembles. In many parts it is known as Golden PEARMAIN, and I am aware in certain districts it is not considered to be of good quality. I think soils must have a great deal to do with this, as in Devon it is very good and equal to King of the Pippins. I always obtained the best fruits from standard trees. There is no difficulty in keeping the fruit well into midwinter. I do not class it as first-rate for quality, but for its usefulness and its free bearing it ought to find a place.—W. B.

Half pruning Vines.—The old practice of half pruning the laterals of Vines as autumn approaches is not generally followed now-a-days, yet I think it is productive of good under certain conditions. When the Vines have retained all their foliage and are healthy, reducing the laterals to half their length just as the leaves are changing colour has the effect of plumping up the eyes at the base and of hastening maturity and rest; it also lets in sun and light and helps such varieties as Gros Colman and Barbaresco to lay on colour. Vines, however, which, owing to bad attacks of red spider or insufficient ventilation, have lost the best of their foliage, should be left as they are, as if pruned back and a period of mild, stuffy weather follows, the bottom eyes are apt to start into growth, which of course is a great evil.—C. C. H.

Propagating Gooseberries.—Previous to visiting a local nursery of no great pretensions last autumn, I was under the impression that Gooseberry trees were produced by the ordinary mode of cuttings only. In this nursery, however, were a number of old Gooseberry trees which were mounded up with soil, presenting a strange appearance, the points of the shoots protruding through the soil. I was informed that this was the way they raised all their stock, the mound remaining undisturbed till the following November, by which time the innumerable twigs had emitted abundance of rootlets into the ground, these springing principally from the junction of the old and new wood. When separated from the parent bush they are planted out into nursery beds.—J. C.

Early ripened Muscat.—Muscat Grapes, to ensure first-class quality and long keeping, ought to be quite ripe by the middle of September. In gardens where fuel is grudged and houses are not started till, say the middle of March, the

Grapes, especially if the summer is an indifferent one, are more often than not found in a semi-ripe state at the date named, and wholesale shrivelling invariably takes place. I think that, even with well-ripened Muscats, this evil is encouraged by admitting frost air during autumn. The skin of this luscious Grape is very sensitive and will not stand currents of cool air when in this state. I have a Vine of Royal Vitis which in previous years has been started the first day of February, the fruit being ripe by the middle of September. This year, however, it was started later by a fortnight, three weeks, and the month of September having been exceptionally wet and sunless, the bunches of this highly-flavoured Grape are even now—the second week in October—on the unripe side, and several berries here and there are giving way. This Grape requires even more heat than Muscat of Alexandria. In some gardens where the Grapes are marketed there is still that unwillingness to start the Vines in good time in spring, coal being a consideration; whereas firing has to be resorted to in order to induce the berries to finish respectably. From a monetary point of view alone early starting has the advantage.—N.

Strawberry growing in East Anglia.—Until lately I was not aware that Strawberry growing for market had become such an important industry in East Anglia. More, I think, grown in Norfolk than in Suffolk, and one individual alone, who previously had a large area planted with this fruit, has this year planted 20 more acres. I was under the impression that the fruit from that district was all sent to London, except, of course, that required for the wants of Norwich, Ipswich and the east coast water-places. I am informed, however, on good authority, that a great percentage of it finds its way to Scotch towns such as Glasgow and Edinburgh. On learning that it travelled such a distance I was led to ask how it was packed, and was told, in very shadow wooden trays, half-a-dozen of which were tied securely together, the bottom of one tray forming, as it were, the top for the other. As to varieties, Sir Joseph Paxton and Presidents are the favourites, Sir Harry also being grown. No doubt that fine Strawberry Gun-Park, which had its origin in that county, will also be grown, as I learn that market growers generally are taking it up, especially in the neighbourhood of London. Where the soil suits Sir Joseph it is likely to remain a favourite, as, in addition to the size and colour of the fruit being just such as take the eye of the public, it is very firm, and therefore well adapted for travelling. Raspberries and Black Currants are also largely grown in the eastern counties, the soil and climate apparently suiting them well.—J. CRAWFORD.

MELONS AND WIREWORM.

The wireworm is as injurious to Cucumbers as to Melons, and for years I found pot Strawberries suffered also from the same pest. The worst of this pest is that it allows a certain time to elapse before it begins to rob the plant of its roots. From close observation I note wireworm keeps pretty near the surface when most active. I also note it does greater injury in light soil, especially after a dry season. I am aware it is difficult to prevent the pest being introduced into a house if one follows the usual advice of staking a good quantity of turf during the winter for the next season, as wireworm is surely encased in the turf, and when placed indoors it increases, and the roots become a prey to its ravages. With open-air crops one can take stronger measures, such as gas-lime, soap and other aids to effect a cure, but indeed with a small body of soil these are but trifling remedies and frequently injure the plants. My advice is not to rely upon the top spit so often advised. In the case of Melons or Cucumbers one is not so dependent on soil containing such fibre if the whole mass is so made up as to be solid, or contain sufficient food to build up the plant. My plan is to depend upon the soil after a good top spit is taken off, and for the plants named it answers thoroughly. One can always

make up soils to contain sufficient food to feed the plants, and for Melons one need not be so particular as to a firm holding soil, but a excessively rich, is the best. From recent observation I find the larva do not enter the lower soil in any quantity; if they do they are so minute that they are unable to do much mischief, and this soil, which is often put to inferior uses, is of great value for the purpose named. It is not necessary to stack it, as there is no grass to decay, as with the top spit. For Strawberries much the same soil is suitable as for Melons, and though the pest is less troublesome—as the roots are not so succulent as those of Melons or Cucumbers—the worm causes flagging and badly-finished fruits. There are few things more annoying to the grower than to find a goodly portion of his plants collapse after a little bright sunshine, and, upon examination, to find that the damage has been caused by wireworm.

G. WYTHES.

APRICOT CULTURE.

RAIN having fallen in abundance during the past few weeks, Apricot borders are sufficiently moist enough now for root-lifting to be done where necessary without any ill effects arising therefrom, provided it is carried out in a proper manner. Root-lifting may have become necessary from two causes, one of which is a too rich border, which would have been the case most likely at the time of planting or by annually digging in large quantities of manure from the surface for growing various crops of vegetables. This renders the trees unfruitful by causing them to make gross succulent growths which never ripen, and gummaging and other disorders to which Apricots are prone soon follow. The other cause is starvation, which may arise through the trees having exhausted all the good properties in the soil in which they are growing, or through their being planted in unsuitable or poverty-stricken soil at the outset. But for every tree met with suffering from this cause, there are hundreds to be seen in the condition first mentioned. Apricots are largely grown by cottagers in this district, and I have often noticed what short-jointed, fruitiful wood they make. Now the majority of these trees are planted in whatever soil happens to be at hand, which is more often than not the red loamy soil of the district—some of the more intelligent mixing turf dug up from their orchards with the staple—and being trained on the fronts and gable ends of the cottages, according to position, the root-run is generally restricted by pavements or footpaths. It, therefore, follows that the roots, once they have taken full possession of the soil, cannot get far away, owing to the firm nature of the ground under these pathways, and such that are able to enter it are fibrous, and strong roots are absent, hence the fertility of the trees. The majority water their trees most assiduously and generally secure good crops of fruit.

One often hears the remark passed by people that Apricots will not succeed "as well as" as formerly, and quote instances in support of their statements. I always meet these statements with a counter one, to the effect that wherever they succeeded in former years they may be made to do so now if they are cultivated and treated in a rational manner. It is not so much localities and seasons that are at fault as is the culture, although such as the plea general put forward as a reason why the Apricot is a failure where it was a success formerly. Certainly the Apricot has had more care bestowed upon it during the past few years, but at one time, like the Peach and Nectarine, it was sadly neglected and quite given up by some people. Of course, there are gardens where it is useless to attempt growing the Apricot outdoors, but this has always been the case, and will remain so. I know of several such cases myself, and am acquainted with a certain locality where in one garden no amount of persuasion and good culture can induce the trees to grow and do any good, while within a distance of ten or twelve miles Apricots do well.

To check rank growth, nothing is so effectual as a partial lifting of the roots, and if done early, the preservation of the larger roots will assist the trees to ripen their wood and also to plump up the buds. The lifting out of this partial lifting is the same as practised with other fruit trees, and care should be taken to preserve all the fibrous roots as much as possible while the work is going forward. The soil thrown out should be removed altogether if much humus is present in it, replacing it with a similar compost to that used for Peach trees. Only part should be retained in any case, and place this at the top, putting the new compost about the roots. Trees in a starved condition should have all the new soil if practicable, but the roots of the trees should not be bared entirely, it being always best to leave a fair-sized ball of old soil, so that the roots near the stem are not disturbed. The new soil should be placed all round the ball and the roots carefully laid out in it as it is wheeled in. In all cases the soil must be made as firm as possible while filling in, and to settle the soil about the roots, water thoroughly. Where severe measures have to be adopted, syringing of the trees may become necessary to prevent the trees flagging, and after finishing off the surface of the borders, mulch with long litter. With regard to

SOIL FOR APRICOTS.

lime should largely enter into its composition, and when it is not present the deficiency should be made good. Calcareous loams will not need it beyond lime rubble being provided in sufficient quantity to ensure porosity of the mass, or charcoal manure, or a mixture of old brick rubble broken up small, will answer equally as well. Loams of an opposite nature should have a liberal addition of old plaster or old mortar and bones and bone-meal also, and wood ashes may be included if the soil is heavy. Sandy loams require dried clay or marl to render them more holding, and to enrich them, bones and bone-meal. An ideal compost for Apricots is a fresh-dug, moderately heavy calcareous loam chopped up fairly small, with wood ashes and lime rubble mixed with it in the proportion of two barrowloads of each to every cartload of loam, adding half-inch bones and bone-meal if the soil is poor in quality. Stable or farmyard manure should not be used for mixing with the compost under any consideration, as the employment of it only leads to excessive growth and induces sterility. Manure of this description used in the right place—that is, on the surface of the border as a summer mulch—does an infinite amount of good by feeding and enticing the roots to the surface and conserving moisture. The Apricot no more requires a soil made rich by the addition of farmyard manure than does a Peach tree or a Vine, and what good cultivator would think of employing it when forming Vine and Peach borders? When the trees have an excess of manure by being dug in from the surface, the remedy is only too obvious, and it is preferable to give up the greater part of the border to the trees than run the risk of injuring them. Apricots are such delicious fruits and so much sought after there never being any too many of them—that they are worth expending all the care upon them, and after all they do not require so much care and attention in the long run as Peach trees do.

A. W.
Stoke Edith.

Cherry Bigarreau Napoleon.—A first-rate Cherry and a good variety either for walls or the orchard house. Grown under glass, the fruit attain a large size, are delicious when fully ripe, and hang in good condition for a long time. On an east wall it succeeds Bigarreau and Black Bigarreau, and ripens before Late Duke. It is therefore most useful in helping to prolong the season. As a cordons the tree is prolific, but should not be too restricted, or the trees soon start gummaging.—GROWER.

Pear Hacon's Incomparable.—In shape this is rather remarkable and might easily be mistaken for an Apple. It is a good garden

variety and should have the shelter of a wall in cold districts. It also succeeds better on the Pear stock than on the Quince. When worked on the latter, the fruits crack and are altogether unsatisfactory. On the Pear stock the tree grows well and crops abundantly when established. It has white flesh, which is buttery, and the flavour is rich and somewhat musky. It is in season during the latter part of December and the early part of January.—A. W.

Pear Bourre Superfin.—A large autumn Pear ripening during October, and sometimes not until November should the season be a late one. The fruits vary in appearance according to the position in which they are grown. On a wall the skin is brighter looking and almost free of russet patches, while on bush and pyramid trees the fruits are generally heavily coated with brown russet. The flavour is very luscious and rich. As a bush it is exceedingly fertile when double-grafted, and then grows most vigorously. It is also a good kind for cultivating as a cordon or a pyramid, and succeeds well on the Quince.—A. W.

Cherry Bigarreau.—This is a favourite old variety of Cherry suitable for growing in any form of tree, and is worth a place in the orchard house. It is a fine-looking fruit, and grows to a large size on wall trees and bushes, and is a profitable market variety. The colour is a reddish yellow, amber colour, marbled with red, flesh firm, yellow, and of excellent flavour. When grown as a bush the summer shoots should be pinched to obviate the necessity of winter pruning, which keeps the trees from gumming, a disease to which this variety is particularly liable if subjected to hard pruning. The habit of growth is spreading, the branches of standards and bush trees having a tendency to droop.—S. E. P.

Cherry May Duke.—One of the best Cherries for general use. It is, moreover, a very early variety, coming into use immediately after Early Rivers and Werder's Black. If planted against a wall having a south or western aspect, the fruit ripens about the third week in June, and ten or fourteen days later on an east wall. It is a hardy, vigorous-growing kind and succeeds well as a standard, bush, cordon, or trained tree against a wall. It is also a heavy cropper and an excellent market variety. The fruits are medium sized to large, blackish red in colour when allowed to hang until fully ripe, while the flesh is purplish, juicy, and richly flavoured. If gathered too early the flavour is somewhat acid.—GROWER.

PALE COLOURED PEACHES.

APPEARANCE counts for so much now-a-days, that Peach planters are very apt to ignore the paler and more delicately skinned varieties, preferring those of a more brilliant outward appearance. Now although high quality is to be found in many of the crimson faced Peaches, yet the rigid adoption of such a rule would mean the exclusion of varieties which for lusciousness and richness of flavour are unsurpassed, if equalled, by any of the higher coloured section. Take, for instance, Rivers' Early York, a rather pale Peach; it is true that when crimson varieties of its season come out it fails for flavour, say nothing of its exceptionally free setting and yielding character! I consider Early York ought to be included in the most select list to follow Amsden June and the rest of the American kinds. Both Grossé Migonne and Early Grossé Mignonne will hold their own against all comers for flavour, the skins of both being as thin and the flavour as rich as in the old Noblesse. Where there is plenty of room both varieties may well be grown, but the earlier one is the more reliable of the two, not having the objectionable habit of casting its fruit the original Grossé Mignonne has. All gardeners know the quality of the old Noblesse, and if started at the end of November it will ripen by the end of May, and when staged in good condition for competition at that date takes a lot of beating. Unfortunately, however, it is somewhat shy in bearing

but if only half a crop can be secured it pays to grow it. A later raised form called Alexandra Noblesse is certainly a rather freer bearer, but in my opinion the flavour is not so rich. Sea Eagle must be classed amongst pale Peaches, although fruit well exposed to the sun on the upper side of the trellis takes on a pleasing pinkish tint, rendering it very suitable for exhibition. Probably more trees of Sea Eagle have been sold during the last two or three years than of any other variety ripening at the same date. The flesh of most thick-skinned Peaches is under average in quality, but that of Sea Eagle should please anyone. Vigorous in constitution and an enormous cropper, it is certainly an amateur's Peach. Princess of Wales, another of the same category, fully deserves its popularity, being as an all-round Peach hard to beat in early autumn—in fact no collection is complete without it. Perhaps the most serviceable of the rest of the late ripening pale coloured Peaches is Golden Eagle, as it bears freely and ripens well out of doors in average seasons. It is a large lemon-coloured variety.

J. CRAWFORD.

PEAR DOYENNE DU COMICE.

J. CRAWFORD, in *THE GARDEN*, Oct. 10 (p. 295), is quite right in his remarks that this (the best of all the November Pears) does well as a pyramid tree. Although I have it in different situations on the walls, the finest fruit I have ever grown has been and still is from a pyramid tree, on the Quince stock, planted in 1858. The tree came from Guernsey, from a friend of the late Sir T. D. Aske, and I believe it was some years afterwards before this sort appeared in their nurserymen's fruit catalogues. I first exhibited fruit of it at the Devon and Exeter Horticultural Society's November show in 1864, when it was awarded a prize for its excellent quality. Afterwards at South Kensington it was awarded the first prize for quality in three consecutive years, twice out of three years the fruit came from the above-mentioned tree, twenty-one and twenty-seven other dishes being in competition. This tree is now more than forty years of age; it is in the most perfect health, and carries a good crop of fruit yearly. The finest fruit is still on the tree (October 13), all in bags to protect it from the tomits. All the second sized fruit has been gathered, and is now being sent in for descent, as Pears are ripening much earlier than usual this season.

I mention the above circumstances to show we have in this case both size and quality of fruit and also longevity on the Quince stock. I recollect many years ago sending a premature fruit—a windfall from the same tree—to a fortnightly meeting at South Kensington weighing 1 lb. 4 oz. The only advantage of growing this sort on walls in my case is that the fruit is more secure from wind, many having been broken clean off, spurs, branches and all by the late terrific gales, and to protect from birds by netting the fruit, the tomits being especially fond of this sort. From the tree above mentioned grafts were freely given to several nurseries and to all others who applied for them when the quality of the sort became known. I may add for fertility and quality I prefer to grow all Pears on the Quince stock.

Kilkerton, Exeter.

JOHN GARLAND.

NOTES ON STRAWBERRIES.

MR. J. C. TALLACK in criticising my notes (p. 304) seems to imply that gardening, as far as the cultivation of the Strawberry is concerned, has fallen to a low ebb at Stoke Edith. That such is not the case my gardening friends and others who are in the habit of visiting here know full well. With regard to the various measures and remedies recommended by Mr. Tallack, I will only say they have all been adopted long ago, and with excellent results, evidence of which is to be seen in the abundant crops of fine Strawberries annually produced by the plants. If Mr. Tallack will read my notes again he will find that I did not refer to

the decadence of the Strawberry generally. I mentioned kinds which do not succeed here, and those which have been discarded either through deficiency in size and colour, or want of flavour. I still adhere most strongly to all the facts stated in my notes, as I find the varieties mentioned in the final paragraph to be decidedly the best for my purpose.—A. W.

The remedies Mr. Tallack suggests at p. 304 are such as are instilled into the minds of schoolboys on their first lessons in the principles of agriculture or horticulture, and are therefore not likely to have been neglected in so well-ordered a garden as that at Stoke Edith. I know from personal experience that the virgin clay soil has there been dealt with in a most successful manner. The fact that it can be dug in mid-winter within a few hours after rain, with no injurious effects abundantly proves this. Mr. Tallack will surely admit that a soil which produces one crop, one variety of a crop, in a state verging on perfection, may be entirely unsuited to others. Certain chemical elements essential to colour, &c., may be wanting in the soil. This would naturally lead to a greater amount of success with a highly coloured fruit than with one, like President, predisposed to paleness. I know, for instance, that "A. W." can produce magnificently specimens of Sir Joseph Paxton and Oxonian, while in my own garden the former variety rapidly dwindles away. The main point at issue between "A. W." and Mr. Tallack seems to be whether we should be satisfied with growing those varieties which we can produce in perfection on a soil already possessing general good qualities, or whether by special (and perhaps costly) treatment we should try to make it capable of growing any variety we hear well spoken of, which may, or may not, be slightly better or more fashionable than those we already produce. In other words, is it better to adapt our crop to the soil, or our soil to the crop? In conjunction with many other amateurs I am curious to hear the opinion of others on this matter.—J. T., Tarrington, Ledbury.

SHOWY APPLES.

"C. C. H." (p. 244) notes the value of Apple Red Astrachan for its appearance only. I quite agree with him as to its uselessness from a cropping point of view, and there are several others in the same category. I think, with so many varieties in cultivation, there would be no loss if these kinds were omitted from catalogues altogether, as they are described in such glowing terms that anyone not well acquainted with them, who may plant several trees, is disappointed, as in many cases they give a poor crop and the fruits are of poor quality. Take the description of the above variety: large, beautifully coloured, handsome shape, flesh delicate, and richly flavoured. In my opinion this is most misleading. I note Mr. Barron gives a different description in his "British Apples." He says it is medium sized, flesh white, brisk, acid, a first early, but of second quality and a shy bearer. In these days when gardeners are expected to produce so much, we do not want to encourage these kinds, and there is no lack of varieties of superior quality and more productive. Take the much over-rated Worcester Pearmain. In my opinion, this is not deserving of a place as a first quality fruit, a position it holds in several lists. I consider Duchess of Gloucester superior as regards flavour, but even this showy Apple a week or two after being taken from the tree is useless. Another showy fruit—Mr. Gladstone—is of poor flavour that I would not plant a single tree. I admit its earliness, but earliness is only one point, and quality is required. I am aware it received a first-class certificate from the Royal Horticultural Society, but that was when the committee must have been in a liberal mood; far better fruits have been passed over. This is doubtless a good market variety, but my advice to private growers who study quality is not to grow this in any quantity. Fortunately, these showy fruits

may be put to a good use; such kinds as fruit freely in standard form, like Worcester Pearmain, Mr. Gladstone, and Duchess, are most ornamental for shrubberies. The trees when in bloom are beautiful, and the fruit, being so bright, is very effective at a season there is none too much colour in the kept grounds. I am aware by recommending showy fruits to be grown thus I may be taken to task, but my remarks only apply to the early July and August Apples, those not worth storage. Duchess is a delightful fruit grown on a standard. It is not a gross grower, and so well adapts itself to this mode of culture that it may be grown in gardens of limited extent. It is of better quality than Mr. Gladstone's or Worcester Pearmain. Most of the very much praised showy fruits are defective in quality. Fortunately, our late and mid-season kinds are of better quality. King of the Pippins, though it may not be classed as of the best quality, is so superior to the early kinds named and it so rarely fails to crop, that I consider it as one of the most profitable Apples grown.

W. S.

FLOWER GARDEN.

NEW HARDY WATER LILIES.

TOWARDS the close of last year when describing the greater number of the *Nymphaeas* raised by M. Latour-Marliac at Temple-sur-Lot, I mentioned two novelties of great beauty and very free-flowering. These two plants, which form the subject of the present article, the fortunate raiser has named—one after Mr. W. Robinson (proprietor and director of *THE GARDEN*), and the other in compliment to the editor-in-chief of the *Revue Horticole*. These two varieties are now in commerce, and cut flowers of them have travelled from the confines of Lot to Paris without flagging, which deserves to be mentioned amongst their good qualities. This year I have seen them again in bloom. From the commencement of summer they continue to produce an uninterrupted succession of flowers, each of which continues unfaded for several days. The following are exact descriptions of these two fine varieties:—

NYMPHEA ROBINSONIANA.—Limb of leaf orbicular, $\frac{7}{8}$ inches broad, and neither emarginate nor peltate; sinus scarcely visible at the junction with the leaf-stalk; lobes somewhat equitant (the sinus twisted towards the middle), very obscurely mucronate and with distinct nerves or veins on the upper side; colour lively green, with spots very unequal in size, of a dull, dark violet hue, and disposed in a somewhat radiating manner; under side of a pale red colour, spotted all over with dark violet, veined with vermicular markings.

Flower-stem cylindrical, brownish red with a darker streak and pale at the top, which is hollowed out into a cup, forming an enlargement under the calyx. Sepals oval-cuspid, concave, olive-coloured on the outside, pale and rosy at the edges, blac on the inside, over 2½ inches long and 1½ inches broad. Corolla very broadly cup-shaped, spreading; petals ovate-acute, concave, unguiculate, 2½ inches long and from 1 inch to 1½ inches broad, of a fine purplish violet-red colour, dotted with pale grey, the central petals much deeper in colour and shorter. Stamens forming a broad flat crown (the outer ones petaloid and very much dilated), of an orange-red colour at the edges and yellow on the inner part. Stigmatic elevation funnel-shaped, with sphaeroidal umbilicus in the centre, furrowed, and of a deep yellow colour, the upper surface very much incurved and of a deep red colour.

NYMPHEA ANDREANA.—Limb of leaf elliptical, not emarginate nor peltate, 8 inches in diameter, with equitant lobes forming an apparent sinus, notched towards the middle, terminating in a thick oblique point, and bordered and slightly spotted with dark brown; under side having the

mid-rib and the principal veins broad and prominent at their point of commencement, but becoming sunken and reticulated as they approach the margin of the leaf, of a dark reddish colour, all over with small spots of a dark vinous blood colour. Flower-stalk cylindrical and slightly ribbed, of a deep reddish brown colour, very pale in the upper part, as is also the square flat base of the calyx. Sepals lanceolate, of a pale rose green colour on the lower part with a broad rose band at the margin, passing into reddish, deep olive-green on the upper part, obtuse and incurved, of a soft lilac-rose colour on the inside, nearly $\frac{3}{4}$ inches long and about $1\frac{1}{2}$ inches broad. Flower of a handsome oval-obtuse cup shape; petals not very numerous, oval-obtuse, concave, with a broad white claw, from about $2\frac{1}{2}$ inches to nearly $2\frac{1}{2}$ inches long and 1 inch broad, the central ones broadly oval or obtusely rhomboidal; all of a fine violet-red colour, which is deeper about the centre of the petal and gradually becomes lighter towards the top. Stamens with short, lanceolate filaments and golden yellow anthers, which in the upper part are incurved and of an orange colour.

One interesting peculiarity of these two varieties is that they produce flowers which remain open during a greater part of the day than those of many other kinds of Water Lilies. For instance, the flowers of the charming North American *Nymphaea odorata* roses close about 2 p.m., while the flowers of *N. Robinsoniana* and *N. Andreana*, growing close by it, keep open until 5 p.m. or even later. Among the good qualities of these handsome hardy plants is their production of a continuous succession of flowers all through the summer, and I am acquainted with several places where pieces of water are enriched and ornamented in the highest degree by these Nymphaeas. They should, as I have already stated, be planted fully exposed to the sun, and on the bottom where the water is of no great depth—16 inches to 20 inches will suffice and ensure a ready supply of sun-heat—in a mixture of pond-mud and manure. Gold fish placed in the water will prevent the growth of coniferous and other water weeds.—ED. ANDRE, in *Revue Horticole*.

Two good Salvias for the flower garden.—After the long spell of dry weather, followed by copious rain, no two tender plants have given such a splendid bit of colour as *Salvia Bethamii* and *S. splendens*. I have them growing in a border under a south wall, just from the abbey. Large masses of them, associated as they are with yellow and white Marigolds, white Tobacco, and many other things, are very beautiful. It seems strange these Salvias are not more grown in the open air, as nothing is more brilliant in autumn. Many of the Salvias bloom too late in autumn to be risked in the open, but this is not with the two under notice. My method is to keep three or four old plants in a cold greenhouse through the winter, and from these I get the cuttings from for growing in pots. These old plants are planted out with other tender plants in spring. They quickly start into growth and begin to bloom by the end of July, continuing till destroyed by frost. Cuttings put in early and potted on so as to get strong plants do just as well. Some years ago I saw *S. splendens* in Parbeck Isle in October a perfect mass of bloom.—DORSET.

Carnation Uriah Pike.—The excuses indulged in by Mr. Smith at page 250 of THE GARDEN are no answer to my challenge at page 198 of the same publication, and to which I still strictly adhere. It is doubtless very convenient to Mr. Smith at this moment to relegate Uriah Pike to the ranks of the border Carnation pure and simple, and to so absolutely ignore the pronounced perpetual habit of the variety, which is one of its most distinguishing characteristics. To demonstrate this natural and unmistakable character I am prepared to show at the meeting of the R.H.S. on October 27, or at any subsequent meet-

ing during the present year, a dozen or two plants in full bloom that have been grown from cuttings after the manner of Tree Carnations generally, and, of course, in no wise specially prepared for this particular purpose. And with such a result faithful in the identity of his now smooth-edged carnation. Could Mr. Uriah Pike, it should be quite easy for Mr. Smith to stage an equal number of plants in full flower on the same short notice with myself. If Mr. Smith cannot do this, where is the wisdom or consistency of compounding his purely border Carnation with the perpetual-flowering Uriah Pike?—GEORGE MAY, *The Nurseries, Upper Teddington, Middlesex.*

LILUM CANDIDUM.

I AM very much indebted to several correspondents for recording their experiences with the Lily, and particularly to those who, having put on one side the old theory that Lilies must on account be dried, have given the sun-drying theory a trial. In years past several correspondents have written in confirmation of the drying process and its efficacy, and quite recently "S. W. F." and Mr. J. C. Tallack have given similar testimony. At page 285, however, Mr. Engleheart's experience is a purely negative one. Seeing that Mr. Engleheart has tried this lifting and baking again and again absolutely in vain, I feel more than ever interested in the matter, and also not a little puzzled as to complete a failure in Mr. Engleheart's case. And here I would like to mention that the period of rest out of ground should be fully six weeks, and better still if of two months' duration, dating say from the first week of August, the time which Mr. Engleheart wisely gives for the removal of this Lily in any case so effectual it appears to me that the drying has to be responsible in this particular species of Lily for the loss of its radical leaves which appear so quickly after flowering in tubers that are healthy and undisturbed. Indeed, I am gradually inclining to the opinion that the presence or absence of these radical leaves may have something to do with the disease, or at least its most virulent attacks. That is to say, I desire it possible for these leaves to constitute the resting-ground for the disease germs during winter, and that one of the results of the lifting and drying is to denude the bulbs of such leageage for the time being.

Here I would like to ask Mr. Engleheart whether the bulbs lifted and dried by him produced their autumn leaves or not, and, again, whether this is so in the cottage gardens to which reference is made and where no disease appears year after year. One of the chief puzzles in regard to this disease is that the plants are ruined time after time, while in another instance (quite near no disease is known or felt at all). While at Claremont in the summer of this year the same thing was also apparent, one clump being badly affected and another quite near with little or no disease at all. Where no treatment of any kind will induce this Lily to attain its old-time perfection the loss is great indeed, as we have nothing that can vie with it in the tall masses of its exquisitely pure and chaste blossoms, and those who by any orthodox methods or reverse can produce them without spot or blemish can have nothing finer among the whole range of hardy bulbous plants flowering in July. One of the worst cases of disease in this Lily I have ever seen was in an old and well-known garden at Sunbury-on-Thames nearly ten years ago. This garden contained dozens of the finest masses of this plant, which quite suddenly without disturbance or exertion of any kind became an entire failure. This I attributed at the time to a garden in which shade was rather abundant, accelerated by moisture and close proximity to the river. Yet these same clumps had been always a splendid success hitherto, and no cause could be given for the failure, which was complete. The whole subject is rendered much more difficult by Mr. Engleheart having a precisely

similar experience in his garden where the soil and other conditions for growth are just the reverse of those quoted above. Finally, I can only add that the soil of the garden where I made the first few experiments in sun-drying the bulbs of this Lily was perfectly dust-dry nearly a foot deep, much drained by some 5 feet of gravel and sand below, and without shade.—E. J.

—I have taken a great interest in the discussion going on in THE GARDEN in connection with *Lilium candidum*, and as I have not seen this Lily so finely grown anywhere, perhaps you will allow me to give the system adopted here. The soil is of a dark adhesive nature, and in forming the clumps I prepare the ground by trenching 2 feet deep, filling in one half after it is thoroughly mixed with peat litter manure. I then put in half an inch of burnt soil, half an inch of peat, and a good sprinkling of charcoal. The bulbs are then placed on this 2 feet apart, and the remainder of the soil, being thoroughly mixed with peat manure, is filled in. An important point is to transplant immediately the flowering is over. It had occasion to remove a large number of this Lily which were planted three years ago, and the bulbs were healthy with strong, vigorous roots simply revelling in the upper compost. I had the spikes 5 feet to 8 feet high, bearing fifteen and sixteen blooms, and a few as many as nineteen blooms. A large quantity are grown in all exposures with equal results. I adopt the same system in growing the Martagon Lily, and have had magnificent spikes over 7 feet high, each producing from eighty to 100 blooms.—CHARLES COLE, *Ross Hall Gardens, Paisley.*

DAHLIAS.

ALTHOUGH these tender flowers have been blooming so late as to enable remarkably fine displays and good blooms to be exhibited at the Drill Hall on the 13th inst., yet is it obvious that their beauty is over. On the whole, Dahlias had had a good season. Flowers have been abundant and good, and they have assisted in a remarkable way towards indoor, church, and other decorative work. Rather than wait until the frosts come and blacken the plants, rendering them unsightly and offensive, it is wiser to cut away the growths at once. Remove all stakes, see before lifting to the labels being stout, well written, and properly tied to each stem, and then get the roots up ready for root-storing. Where the ground is very wet it may be thought wise to cover heads of coal ashes over the roots and let them remain until the soil has become drier. Generally it is best to lift the roots at once, doing so with all possible care so as to prevent root breakage, removing with a pointed stick all the soil attached which may be thus dealt with, and then getting the roots thoroughly dried. It is a very good though old-fashioned plan to turn the roots with the stems downward in a dry place for a short time, so that any moisture which may have collected in the hollow stems will run off. Where moisture is allowed to settle in these stems, decay of the crowns invariably follows. After the roots have been fairly well dried, but not so much as to cause shrinking, the best course is to set them closely into shallow wood boxes of such sizes as may be convenient, then a covering of sand, fine ashes, or coco fibre refuse may be placed about the roots, so that every crevice is filled and air is excluded. The crowns should be just covered, but the cut stems and labels affixed may project. So stored the roots may be placed in any moderately dry shed or outhouse, anywhere in fact where the atmosphere can be occasionally changed and dried when frosts are excluded. Those who would like to have the roots for the early spring, having none, can purchase what are known as pot roots. These are in 3-inch pots usually. If early in the spring these are put into larger pots or planted up closely in a soil bed under glass and assisted by warmth and moisture, they will give some shoots which can be made into cuttings, and thus give stock.

A. D.



Gladiolus White Lady. From flowers sent by Messrs. Haage and Schmidt, Erfurt.

GLADIOLUS WHITE LADY.
The spike of Gladiolus we figure to-day was one of three sent to us by Messrs. Haage and Schmidt, Erfurt. It is a seedling gan davensis raised by them between the varieties lactea and Blandine, and has been appropriately named White Lady. It will be put into commerce this season. The flowers are pure white, with a slight tinge of pale yellow on the lower petals, the buds light yellow. It is said to be a robust grower, and has a distinct light-coloured bud. It grows from 2 feet to 3 feet high, and is certainly the finest white Gladiolus we have seen.

HARDY PLANTS FOR EXHIBITION.
Will you please give me the names of sufficient hardy plants, etc., to furnish an exhibition board of cut flowers (twelve bunches in six distinct species), to be in bloom the last two weeks in July and the first two weeks in August? Also the dimensions of board to exhibit them on and what cups to use for same.

—J. L. R.—
* * Assuming that "J. L. R." intends exhibiting on the dates named, it would have been much better had he enclosed a marked copy of the schedule, that we could acquaint ourselves with the exact wording of the class or classes in which he intends to compete. "Twelve bunches in six distinct species" is a most unusual requirement of any schedule, and we imagine that twelve bunches in six distinct varieties is really what is meant in this case. Again, the term "hardy plants" may be very widely interpreted, inasmuch as Roses, Carnations, bulbous plants in great variety may justly be included as among the most worthy of "hardy plants," and yet be quite outside the requirements of any particular schedule. We append, however, a list of the most useful of hardy border perennial flowering at the time stated, as we consider these the most likely to meet the requirements of our correspondent. Hardy plants for the last two weeks of July: *Galega officinalis* and its variety, *Coryopetalum lanceolata* and *Coreopsis grandiflora*, *Gaillardia grandiflora*, *Erigeron speciosus*, *Campanula grandis alba*, *Aquilegia chrysantha*, *Campanula persicifolia coronata alba* and *C. p. alba grandiflora*, *Geum coccineum plenum*, *Lathyrus latifolius album*, *Mordara didyma*, *Pentstemon barbatus*, *Polemonium Richardsonii*, *Heremocallis Thunbergi*, *Aststromeria surantica*, *Helianthus Bouquet d'Or*, *Helenium pumilum*, *Heliospiss scabra*, *Scabiosa caucasica*, *Lychis chalcedonica*, *Spiraea venusta*, *Chrysanthemum maximum*, *Chrysanthemum maximum* *filiforme* (whites), *Harpalium rigidum* (gold), &c. Many of the foregoing, by their free, profuse flowering, can be depended on also for the first two weeks in August, with the following additions, which are later in flowering: *Gaura Lindheimeri*, *Centauræ macrocephala*, *Phloxes*, *Tritomas*, *Aster Amellus*, *Rudbeckia Newmanni*, *Statice latifolia*, *Echinacea purpurea* and others. Then, if bulbs were admissible, many Lilies may be added also.

To the latter part of the query—viz., the board to exhibit them on and the cups, &c.—we must say that we do not favour either cups or boards for exhibiting hardy flowers in bunches; indeed, it would be impossible to exhibit a representative bunch of the majority of the best hardy flowers in this way at all. A much simpler way is that of using stout earthenware jars, such as are in use by the Royal Horticultural Society.—ED.

Gynium argenteum.—The severe winter of 1894-95 played sad havoc with this, in many cases killing it outright. This happened in my case. It seems somewhat strange, too, that the plants should succumb so easily to cold

weather, when the protective nature of the plant's habit is taken into account. Large specimens have a thick coat of dry stalks surrounding them, for the ridges of which in spring some owners resort to the unnatural course of setting them on fire. I saw a plant near the railway at Dawlish, in Devonshire, early in October with some beautifully-developed heads, and of a very clear colour. I was surprised to see them so perfect near the coast, where they were subjected to the violence of the late storms. The plant was not over-large and the plumes were very dwarf, which probably accounted for their fine condition after such tempestuous weather. Near the coast, frost does not have the same effect as farther inland, and it would be interesting to know from other inland readers the condition of many of the large specimens scattered throughout the country. I had several plants on the lawn and in borders, one of them in particular being a fine specimen, but I waited in vain to see the young leaves spring from the thickly covered crown in the spring of 1895.—W. S.

Pentstemons.—*Pentstemons* are so readily raised from cuttings inserted in a cold frame under exactly similar conditions and at the same time as *Calceolarias*, that, except as a means of raising new varieties or of replenishing stock which may have become diseased, I hardly think it advisable to grow seedlings as recommended in some recent notes, for they cannot be depended on to come true, and by trusting to seedlings, although good varieties may be raised, the fine colour effects which may be obtained from planting stock of approved varieties raised from cuttings are, to say the least, uncertain. Another advantage added to this certainty of correct colouring is that plants raised from cuttings can be planted out in March without fear, while seedlings raised under glass would at that time be occupying valuable room and adding to the many things requiring daily attention. Seedlings are, of course, useful for supplying cut flowers and also as stock plants to supply cuttings of any good form that may be raised, but though a very large percentage will flower in their first year, a few will fail to do so and cause blanks in the group or bed, while incongruous colours will certainly be brought into juxtaposition, so that it will hardly be wise to trust to them wholly and overthrow the good old method of perpetuating fixed varieties.—J. C. TALLACK.

LOBELIA GERARDI.

THE hybrid Lobelias which have been obtained by crossing with the large-flowered species are many in number, but we do not know of any which in stoutness of stem and abundance of flowering sprays is equal to the form raised by Messieurs Gerard and Gonon. The pollen parent of this new form was that superb variety of *Lobelia cardinalis* named Queen Victoria, the seed parent being an improved variety of *L. syphilitica*, with taller and more robust flowering stems than those of the typical species. The raisers named the hybrid *L. Gerardii* in compliment to Mons. Gerard, director of the botanical collections in the park of Tête d'Or, under whose supervision the experiments and culture were carried on.

Lobelia Gerardii is a vigorous growing and very continuous flowering plant. Before the flowering stems make their appearance it forms a rosette of leaves of a very pure green colour, and resembling the rosette of the wild Chicory. The running roots are abundantly furnished with fibres. When fully grown the plant attains a height of from 4 feet to nearly 5 feet; the strongest flowering stems are as thick as one's thumb at their base, and branch with from twelve to fifteen clusters of fine broad flowers, which all bloom together, the whole forming a compact, rigid pyramid needing no stake or prop to support it. All parts of the stems and leaves have lost the reddish tint of the Queen Victoria and also the somewhat glaucous hue of *L. syphilitica*, and are of a fine green colour; the calyx, however, is

slightly reddish and ciliated on the margin of the sepals.

The flowers, which are of a bishop's violet colour, take on more or less warm tones in individual plants. The lower lip spreads out its three petals, well separated in the fore part and united behind; at the lower part of these, following the line of union, and coming, as it were, from the throat of the flower, are two triangular white markings, which relieve the sameness of the violet colour. The two back petals, which are narrow, as in *L. cardinalis*, stand erect. The staminal tube, which is of the same colour as the corolla, emerges from the throat of the flower, and through it projects, to the length of a few millimetres, the recurved style. At the extremity of the flowering stems a sort of unexpected flower-bud provides for the continuation of the bloom throughout the winter months. During the entire winter of the year a group of *Lobelia Gerardii* in the Escole florale of the Botanic Garden at Lyons continued in flower, growing very vigorously and densely, and showing visitors how valuable this new hybrid is as an ornamental plant.

The plant to which it shows the greatest resemblance is figured in the *Bot. Mag.*, pl. 3604, under the name of *Lobelia syphilitica hybrida*. Dr. Hooker says of this plant that he does not know whether the crossing was effected with *Lobelia cardinalis*, *L. fulgens*, or *L. splendens*. *Lobelia Gerardii* is distinguished from it by the darker colour of its flowers (which are still darker than the flowers of *L. syphilitica*), by the two white markings at the base of the lower lip, and by its essentially perpetual flowering-habit—features sufficiently to clearly indicate a distinct garden variety.—C. SAUVAGEAU, in *Revue Horticole*.

FLOWER GARDEN NOTES.

In the notes from New Jersey on some hardy plants that appeared in THE GARDEN on October 3, I see A. Herrington indicates the part each particular plant takes or is likely to take in the flower garden. This is emphatically a step in the right direction, and one I should like to see followed in all cases where attention is drawn to hardy flowers that are comparatively rare. I do not mean by this, rare or scarce varieties of well-known species. One knows as a rule how to deal with them, but species of which there may be only one or two varieties in cultivation in this country that are unknown in the average garden, and that must especially be considered will fit a tiny place in a rockery than a space on an open border.

Information of this kind is specially required at this season, when beds and borders have to be newly planted or remodelled, and one is anxious not to make any mistake in the arrangements. It is always a safe rule when acquiring any plant with whose habit and constitution one is not conversant to give it a place on a special border set apart for odds and ends until a clear idea can be formed as to the sort of position it may permanently occupy. In the matter of the general planting of hardy flowers, it is not too much to say that although we have made great improvement in this matter, there is still much to learn, and all species, whether of dwarf, medium or tall habit, should have such positions assigned them as they are best qualified to fill. Take the dwarf edging plants, for instance. There are some that can be worthily used for bold grouping on large borders in front of taller subjects, and there are others only fit for very small beds. Unless one is prepared to work up a large stock and plant in considerable numbers, the annual growth made by this class of plants is so scanty that thick planting in quantity is absolutely essential to secure a good display. The soil has to be reckoned with in the case of the majority of plants, and makes a lot of difference to the annual growth rate.

In the case of the tall things, it is not to plant them so well tallared in as in the article on Starworts (p. 283), and when reading anything of this kind one is sorry that the effectiveness of certain things should be utterly ruined, simply because the

planter fails to understand the nature of the things with which he is dealing. There are two points in this same article with which the majority of gardeners will hardly agree; firstly, as to confining the flower (necessarily with a little latitude) to the season of Michaelmas. I find, on the contrary, that the most useful varieties are those that commence flowering say the first week in October and go on until November is fairly well advanced, or even that hardly begin to expand before the end of the former month. No disparaging note is hereby sounded against the earlier varieties which are (many of them) very beautiful and make a fine display, but surely about the most welcome of all flowers are those that are at their best when other things are in decay, and from this particular standpoint we have nothing to equal the late Starworts. Again, I think it is possible to group varieties of all heights, right through from the shortest to the tallest of the Novi-Belgii section, always provided one has plenty of room and any staking that may be required is carefully performed. I would suggest to those who have not tried the experiment, a partial early heading back of the taller sorts. If, for instance, there is a mass of *Diffusus horizontalis* flanked and backed by, let us say, Robert Parker, the outer portions of the clumps of the latter can be taken back, leaving the centre to go up, the effect produced will be all the better, staking is reduced to a minimum, and yet the stronger sort will not encroach on its neighbour. I would not for a moment recommend a close association of the tall sorts of stiff, erect habit, that throw nearly all their flower at the extremity of the plant, with sorts not more than a foot or so in height. This is an ugly style, sufficient to bring the grouping of Starworts into bad repute.

AUTUMN BERRIES, FRUIT, AND FOLIAGE.—The early season of 1896 being remarkable for a good set of flower on fruit and berry-bearing trees and shrubs, these are playing a not unimportant part in the autumn decoration of flower gardens and pleasure ground. I find the birds, looking the foresight to leave supplies for bad weather, have already attacked the berries; trees of the Mountain Ash that were very full and completely clear of the numerous forms of *Crataegus* are vanishing daily. The white and red coloured varieties of *Cydonia japonica* set thickly, and there is a brave display of fruit just now putting on the yellow tinge. The Siberian Crab is fruiting freely and is an attractive autumn tree. It makes a fine shapely head, and might be more often included in ornamental planting, a remark that also applies to the Medlar. With the fall of the leaf the bladder-like seed vessels of *Staphylea trifolia* and *Colutea arborescens* are prominent, and are for this peculiarity always worth a place among the better shrubs. Not within the last few years have the various forms of *Vitis* been so fine or the duration of the highly coloured foliage so well sustained, large plants of *Vitis incognita* being specially noticeable. This sustained effect is, by the way, wanting in the majority of exotic trees. *Ginkgo biloba* is an instance of a tree that one would like to retain a long time in the full glory of its autumn coat, but the leaves are down almost directly they attain the rich golden hue. The foliage on hardy Azaleas promises to be very fine, and given an absence of frost, should last out well. The beauty both of flower and foliage which is a characteristic of these plants, places them in the front rank of hardy shrubs.

E. BURRELL,
Clarendon.

Staking Michaelmas Daisies.—In Mr. W. C. Doo's interesting article on perennial Aster (p. 268), he touches upon the subject of staking, a subject that has more to do with the appreciation of the results of a well-arranged flower garden than many imagine. Time after time one's sense of beauty is violated by observing the tightly tied sheaves alluded to in the opening paragraph, bound immovably to rude stakes, the flower heads, a confused and inartistic mass, the majority of the blossoms, allowed to ex-

pand before they were raised and fettered, turning their faces inward. Contrast this picture, in which the latent beauty has been marred and hidden, with the vision of "sweetness and light," presented by the same flowers growing naturally, and apparently without artificial support, spreading their blossom-laden shoots aloft and abroad. As is noted, if these Starworts are grown in front of a sheltered shrubbery, in which position their blooms, with the dark background, are set off to the best advantage, they will need but little staking, but in many cases they have to be planted in the open border, where some support is a matter of necessity. In such a position, if several green-painted Bamboo canes are thrust into each clump while making growth, the outer canes inclining somewhat from the central, the plants will grow naturally among the supports, which may be looped loosely together with tared twine, and which, while allowing a free habit of

CHRYSANTHEMUMS.

CHRYSANTHEMUMS IN VASES.

The value of the Chrysanthemum for decoration is each year becoming apparent. There are individuals who treat with scorn such illustrations as are to be met with at exhibitions in which Chrysanthemums alone are allowed in the arrangement of epergnes, &c. The manner in which these are filled at many of the exhibitions some are inclined to unjustly condemn, giving as a reason the large size of the epergnes used together with the amount of table space which they each occupy. There may be a little cause for complaint regarding the latter point, but such critics should remember that when such receptacles are used the stands would be so ar-

results are to follow, that a proper blending of the colours be carried out. Many lovely flowers when arranged without regard to the order of colour, instead of giving pleasure to those whose privilege it is to look upon them, invariably do just the opposite. Therefore, to achieve success, it is important that in placing Chrysanthemums in vases a wise choice, in which the colours used would pleasingly associate, should be the first consideration.

One of the richest and at the same time most brilliant harmonies of colour, is yellow and orange in equal proportion, with a few pieces of bright crimson or scarlet interspersed here and there. The few blossoms of the brilliant colours should give the necessary finish to a combination of this kind. These three colours are seen in the ever-popular orange Souche d'Or, the rich yellow of Sunflower, and the bright crimson is valued in the Japanese-like pompon Vesuvé. Of course there are many other varieties which would give the same colours as represented by the foregoing. The association with flowers of the colours mentioned above, of foliage with the glorious autumnal tints, a few pieces of long feathery grass and selected fronds of light green-coloured Asparagus plumosus to overhang the sides, should meet the needs of those who have to arrange large vases for sideboards and other positions. Flowers of lilac or mauve should be used with those of a purple or amaranth colour, while those of the purest white are seen to advantage with either of these latter colours. Bright green foliage, as well as that in which a silvery or a variegation of this colour is obtainable, is generally highly valued for these hues. White flowers are seen to advantage when a striking contrast can be brought about. Such foliage as that of the beautiful Prunus Pisardi, Mahonia aquifolia, deeply tanned pieces of some of the newer forms of the Oak, and fronds of different types of the Ampelopsis should give an idea of suitable subjects to use. White and pale yellow are a chaste combination for use during the daytime, any light green foliage associating prettily with it. Light yellow and bright pink are very pleasing though rarely seen. With many of these colours, some of the rich scarlet berries which are always obtainable during the Chrysanthemum season, will often lend additional beauty and attractiveness.

The accompanying illustration shows how admirably suited for small vases, tubes, &c., are Chrysanthemums when two or three blossoms are placed in them, and a few buds and foliage fixed in an easy and graceful manner. A spray or two of some of the decorative sorts, treated in like manner, is also very pretty, the small lateral growths, each carrying a bud, some just showing colour, giving a finish which improves them very much. Large exhibition flowers are very pretty when placed in small glass tubes with a few leaves still adhering to them. Dotted about on the dinner-table, or placed on the mantelpiece, and the numberless little contrivances which are now so often used, these large flowers are greatly admired. The one disadvantage in retaining the leaves on the large blossoms is their tendency to become quickly exhausted. Because of this failing it is often better to strip the stem of its foliage and replace this with many of the beautifully toned kinds of leaves already alluded to. By adopting this plan the flowers will keep comparatively fresh for a long time.

D. B. CRANE.



Chrysanthemums in a vase.

growth, will prevent the outer shoots from being broken off or bent to the ground. It must be allowed, however, that no staking, with whatever care it is carried out, will safeguard the plants in a gale such as that experienced on September 23, the furious gusts, travelling with a velocity of sometimes nearly eighty miles an hour, destroying the results of hours of labour in a few seconds. Fortunately, such gales are rare until the Stars wane past their best.—S. W. F.

Gynnerium elegans.—This is an elegant grass, and one deserving a special position. The long graceful leaves are not more than two eighths of an inch wide at the broadest part. A three-year-old clump will produce a dozen handsome plumes, reaching to a height of 7 feet from the ground. These plumes combined with the elegant foliage present a fine object. It should be given a fairly moist position in soil rather inclining to a heavy loam.—P.

ranged that the proper amount of table space only should be utilised. Fortunately, the practice of exhibiting Chrysanthemums in vases is now receiving a larger share of attention, the schedules of the foremost societies including classes in which exhibits of this kind are catered for. In this respect the utility of the Chrysanthemum is likely to be better illustrated, and the best interests of the different societies consequently enhanced. Very handsome indeed have been the vases shown at the exhibitions of the National Chrysanthemum Society for some time past, a charming association of suitable foliage with the blossoms used, in many instances building up an ideal picture.

In arranging a vase, no matter whether it be large or small, or there be more than one colour used, it is of the highest importance, if good

Chrysanthemum Notaire Gracz.—This variety stands out prominently from among the new continental sorts, and as a sort for the hardy border it is excellent. The plant attains a height

of about 44 feet, and is of a desirable form of growth. The beautiful shade of lilac-mauve, which this variety possesses is highly esteemed, each spray of blossoms forming quite a pretty picture, each flower produced on a long foot-stalk. One trade grower describes this variety as an early James Salter, as it resembles that variety in colour, but is quite a fortnight earlier.—A. R. H.

Chrysanthemum Piercy's Seedling.—This variety is largely used in the open air at Waterloo Park, Highgate. During the present season, this old variety appears to have done extremely well, the wet weather through the early autumn appearing to suit it admirably. The most striking characteristics this season are its large blossoms, which are best described as bronzy-yellow, and its wonderfully free growth. Several of the plants are from 6 inches to a foot taller than I have seen them for three or four years. This was the first seedling raised by Mr. W. Piercy, and was from seed sent to the raiser from a friend in America. It has now been in commerce from thirteen to fourteen years, and has outlined many other sorts. This variety usually attains a height of about 20 inches.—D.

Specimen plants at Highgate.—Most Chrysanthemum growers remember the magnificent collection of nine plants which secured for the grower, Mr. J. Brookes, the valuable prize offered on the occasion of the Centenary Exhibition in November, 1890. In view of the importance of the competitions on the occasion of the National Chrysanthemum Society's jubilee festival, it may be interesting to readers of THE GARDEN to learn what are the prospects of this grower, judging from his plants at the time of penning this note.

The collection at the Grove, Highgate, comprises some two dozen plants, and includes both Japanese and pompon sorts. The best plants range from 5 feet to 6 feet through, and are studded with a large number of erect shoots, each carrying buds in various stages of development. Each plant is clothed with fresh and healthy-looking foliage, the growth tied in such a way that no stiffness is noticeable. Several of the varieties should be in the pink of condition by the first week in November, while one or two are just a trifle late and need careful treatment to bring them on in time, without spoiling the character of the flowers or the plants. The most promising sorts are Gloire du Rocher, Mme. Octavie Mirbeau, Col. W. B. Smith, Mme. Bertier Rendat, Edith Rowbottom, Maiden's Blush, Mrs. G. J. Beer, Chas. Shrimpton, Marquis de Paris, and International, which will hardly be ready in time, but gives promise of developing into a magnificent specimen.—B.

NEW CHRYSANTHEMUMS.

OCEANA must not be confused with the single-flowered variety of that name, as it belongs to the Japanese section, and is destined to rank among the best of yellow-flowered varieties in the incurved section. The blooms are of full size, the incurving florets sharply pointed, in colour soft yellow on the reverse side, the inside or body of the flower of a rich golden hue. Another pleasing point about this Chrysanthemum is the dwarf habit of its growth, fully developed blooms are obtainable from plants not more than a yard high. Surprise is an October flowering variety, the blooms developing readily and naturally at that time. The growth is all that can be desired, being dwarf and stocky, the plants carrying good foliage; the colour an extra deep amaranth. Mme. Auguste de Laciavrier has flat florets, which incurve slightly at the tips as they expand, becoming flatter with age. The colour is distinct—a rich salmon-red, edged and pointed gold. This promises to make a handsome show bloom. Graphic is developing this year extremely large solid blooms of a pleasing blushing tint colour, with just enough pink on a white ground to render it pleasing. The florets are somewhat rough and irregular, which detracts slightly from its appearance. Altogether the

variety lacks the grace of many Japanese flowers. T. B. Haywood is another Japanese variety, much too close and short in the floret to ever become popular according to the present-day requirements of this section. The colour cannot fail to be appreciated—white, delicately tinted with pink. Wood's Pet belongs to the popular type of Japanese blooms, its florets drooping gracefully, the body of the bloom being thoroughly well built up. The colour is rosy amaranth. Modesta is of American origin, having exceedingly rich orange-yellow, curly petals, which are narrow and droop gracefully. Mme. J. Stevens is described by M. Calvat as a seedling from Parisian, which it resembles in the manner in which the florets unfold. The blooms promise to be of full size, the white incurving florets are slightly hairy. The peduncles are extra long and stout for such a small flower. Mrs. John Shimpson bid fair to come up to the high opinion formed of it last season. The semi-drooping florets are golden buff, striped faintly with crimson-red. In formation as well as in growth it much resembles Mrs. Falconer Jameson. King of Kings is a seedling raised by Mr. N. Davis, gives great promise. As its name implies, it is crimson in colour. Emily Silbury is one of the finest of early October Japanese varieties we have. The flat ivory white florets are sufficiently numerous to build up a full solid bloom. Lago Maggiore, although pretty in its tint of colour—rich orange-yellow—does not as yet promise to be large enough to take front rank in the Japanese section.

E. MOLYNEUX.

EARLY CHRYSANTHEMUMS.

WHEN walking round the recent show at the Royal Aquarium and carefully observing the miscellaneous exhibits staged by different trade growers, I was forcibly impressed with the decorative value of the hardy outdoor Chrysanthemums. It seems but a short time since that complaints were being continually made of the poor colouring of these useful autumn flowers. This charge cannot longer be made, for on the occasion here referred to there were certainly five trade growers each representing the early sorts in capital condition. There were, however, two exhibits which specially took my attention, and these were set up by men who have devoted considerable time and interest to develop and popularise the early-flowering Chrysanthemum as a hardy border plant. In their stands were to be seen quite a large number of sorts, which to most people were absolutely new. These sorts, through want of a favourable opportunity of exhibiting them, have been kept in the background. Fortunately, the late October show presented the chance, which luckily was taken advantage of, and good few growers were unimpressed with the useful character of these flowers. The difficulty appeared to be to find blossoms of dull and uninteresting colour, for the brilliancy of some sorts was marked even under the dingy looking roof and dull light of the Royal Aquarium. In these two instances the plants had passed through all the stormy weather of the last few weeks without any falling off in their attractiveness, and considering this important fact, the display was of exceptional merit.

In my own garden the free-flowering character of the early sorts has been seen and appreciated by many desirous of having a display in the open border during the autumn months, and at a time when other occupants of the hardy border are looking cheerless and uninteresting. Again, reverting to the display at the October show, it may be well just to refer to a few of the most striking and useful Japanese sorts exhibited there: Harvest Home, crimson and gold, free, bushy, about 3 feet in height; Bronze Prince, an English seedling, a beautiful bright bronze, height about 2 feet; Lemon Queen, a very free deep lemon-yellow, nice bushy habit, height about 3 feet. Mme. Camilleaux, a beautiful white, reflexed Japanese, keeping fresh in a cut state for several days, dwarf habit. Edie Wright is another English seedling of a pleasing shade of pink, passing with age to

nearly white, very free flowering, bushy habit, height about 3 feet. Claret Belle is of a pretty shade of claret crimson, true Japanese form, nice free habit, flowers on long footstalks and extremely pretty under artificial light; height about 4 feet. Bronze Dwarf, a variety of English origin, is of red-bronze in colour, with florets of medium size, strong, bushy habit, height about 2½ feet. Mme. Marie Masse, one of the best, and very free, colour pinkish mauve, gran' 1 bushy habit, height about 2 feet. Mme. la Comtesse Foucher de Cariel, one of the brightest, is reddish orange, of very fine, strong bushy habit, height about 2 feet. Gloire de Mezin, although rather older, is yet very little known; flowers large, and the colour described as red-bronze; height about 3½ feet. Orange Child is the nearest approach to the valuable Source d'Or, being quite three weeks in advance of the latter, orange-yellow, free-flowering, height 3 feet. Ambroise Thomas is a variety of French origin and useful as a market variety; colour transparent bronzy red, pretty narrow florets, wonderfully free and nice bushy habit, about 3 feet in height. Another good French novelty is Francois Villermé, a lovely silvery pink, with broad florets, nice branching habit, extremely free and dwarf. Mme. Armand Groz, pale primrose-yellow, flushed blush-pink—quite a new shade—literally covered with pretty blossoms, is one of the best, bushy and dwarf. Another striking kind is Mme. M. G. de Dubor, beautiful yellow flower heavily flushed with bronze, about 3½ feet high. A capital variety for evening use is Coral Queen, a warm shade of salmon terra cotta, of true Japanese form, pretty narrow twisted florets, blossoms produced in lovely sprays, with a useful footstalk. It is of fairly good constitution, height about 5 feet. A pretty button-hole flower is Ivy Stark, orange-yellow, of most exquisite form, dwarf. One of the brightest sorts is Prefet Cassagnave, something resembling an early Cullingford, pretty shaped flower, colour rich crimson. A companion to the last-named is the old Roi des Frécoës, one of the brightest crimson, following beautifully after the finish of Harvest Home, of nice bushy habit and free flowering.

These are a few of the good sorts that every gardener should possess, being a selection in which the shades of colour and variety in form are pleasantly diverse. The N.C.S. would do well to institute a class for about a dozen bunches of these sorts at their October show another year.

D. B. CRANE.

Chrysanthemum Beauty of Teignmouth.—This Japanese variety is the best of its colour—rich amaranth-crimson. The bloom is large and capitally formed, and the growth dwarf, with foliage of particularly large size. It probably originated in Australia, Pride of Madford from that source being the same thing. It has, however, been certified under the former name.—H. S.

New out-of-door Chrysanthemums.—Mme. Casimir Perier is a reflexed Japanese bloom reminding one very much of Golden Christine in colour, with a gold and rose shading. Ambroise Thomas has long thread-like petals, orange-red, tinted with amber. In Lemon Queen fully developed blooms are, as its name implies, lemon-yellow, those unfolding are orange-yellow. Ivy Stark is a seedling from Cornucopia; the narrow petals orange amber, each one tipped with gold.—E. M.

Chrysanthemum Souvenir de Petite Annie.—I have often noted the fine qualities of this variety. In habit of growth it is perfect, with short stems, stiff shoots and capital foliage. Plants that have been cut down are no more than 18 inches high, and studded with well-formed flower-buds. Others which were planted in the ground make fine bushy specimens potted up. They scarcely grow for the first six to well down to 18 inches high, and when grown to produce large blooms this kind is invariably picked out of a collection as one of ideal growth. The flowers are pure white,

of recurring form and first-rate substance. When better known it should take a leading position as a market sort to bloom during October.—H.

Chrysanthemum W. H. Lincoln.—Although this variety has been in cultivation a considerable number of years, it should not be discarded in favour of newer kinds. It is a fine amateur's flower; anyone may grow it successfully. It matters little what bud is selected, all seem to open well, and it may be shown at different dates, but not before bloom from early October to Christmas. The yellow colour is pure and the flowers of handsome shape. Its habit is excellent, strong and healthy looking. I saw plants of it the other day barely 12 inches high from the pot bearing nice blossoms. These, of course, were cut down specimens.—H.

PROSPECTS OF THE SEASON.

The long spell of wet weather we have experienced is certain to have a bad effect on the flowering of Chrysanthemums, and I expect to find the blossoms of 1896 scarcely up to the average of last year, when the flowers of the Japanese varieties especially were of very high merit. Excessive moisture has caused the top growth to run up soft and badly ripened, hence small blooms may be looked for in the case of those selected from late-formed buds. Cultivators who have been content to feed their plants moderately will, I should say, get the best of matters when the final test comes. From such plants we shall find that the blossoms, if not unduly large, will be of good substance and highly coloured, and free, too, from damping.

Everywhere one may observe the growing popularity of the ragged-shaped Japanese kinds, which promise, indeed, to finally drive every other class almost out of the field. I note also a growing dislike to the tall-growing sorts, any Chrysanthemum plant that grows above 5 feet high requiring much labour in the way of securely fastening, and inconvenience in doing the necessary work of disbudding and so on.

It seems to me that the time has now come when the floral committee ought to know more about new varieties than is now the case. Something of the habit of growth should be inquired into before awards are made, so that buyers might be spared an unusual number of disappointments. It says much for the power of those bodies—the R.H.S. and N.C.S. committees—that anything in the way of new Chrysanthemums which gains their certificates is anxiously sought over a very wide area. Another notable fact is the ever-increasing number of *bond fide* amateurs who grow the Chrysanthemum. This is as it should be, but the most striking fact is that they grow the flowers well. It is an admittedly difficult subject to do, or at least I will not say difficult, but one that requires a long season of constant attention, and must therefore take a considerable portion of the spare time of the grower. That being so, I join with them in their desire to get more inducements at the National show than are now held out to them. The complete neglect that at the forthcoming jubilee exhibition their needs and but scarcely meet. At least a gold ribbon medal might have been afforded the amateur. It is unfair to think they can exhibit in the large classes against the very best growers. The conditions are so unequal that the chances of success to the amateur are very remote indeed. I fancy that in time the present arrangements of Chrysanthemum shows will be altered. Growers for sale should have an opportunity of exhibiting the flowers in a cut state without coming into opposition with the private grower, and these in turn may be prevented from sweeping the board by some such rules as are adopted with much success in the Rose-exhibiting world.

New Chrysanthemums are not less numerous this year than heretofore, and it would be well if those who introduce novelties for the first time into England would give some indication of the characteristics of each plant, especially in its

growth or time of flowering. Thus disappointment would be prevented in the case of those who pay a considerable sum for a new sort and find at the end of the season that a name may require that the plant be topped in early spring to obtain a specimen bloom. Up to the present time there has not been anything open of wonderful excellence. Calvat's Australian Gold gives every promise of fulfilling expectations. Baronne Ad. Rothschild, Western King, Simplicity, M. Edouard Andra, Miss J. Lewis, and Ma Perfection (incurred) are promising too. Those of last year, such as M. Chémón de Léché, Mme. E. Capitant, Edith Tabor, and others are in the same category. Phœbus is everywhere grand and is without doubt a magnificent Chrysanthemum. Older sorts, like Col. W. B. Smith, Lord Brooke, Hairy Wonder, Edwin Molyneux, and Mme. Carnot, will keep up their reputation as popular flowers. Mlle. Thérèse Rey, Vivian Morel, and Chas. Davis appear less fine than usual. The Anemone poms-poms are not often seen, and it seems that whilst the rage for large blooms lasts they must remain in the background. H. S.

INCURVED CHRYSANTHEMUMS.

It is pretty generally admitted that this class is less well cultivated than even a few years back. Why is this? Not surely because their trim and formal blossoms are unpopular, at least among those growers who exhibit at shows. It is, I know, the ambition of many to stage these in their best form. It is agreed that the incurved blooms try the skill and patience of the cultivator to a greater degree than do those of any other type. Since the introduction of so many marvelous sorts of the Japanese class, what florists call perfect shaped blossoms, like the Chinese Chrysanthemum, have gradually become over-hallowed; and the former have, I think, something to do with the falling off in culture of the incurved flowers. The desire to obtain blossoms of huge dimensions has probably been the means of a like ambition to get large size into the latter type, consequently the plants are overgrown. Coarse, soft stems will not produce fine incurved Chrysanthemums. Blooms from such growth are broad, it is true, but flat and ill-shaped. Those growers who have excelled in obtaining fine specimens have always been particular that ripe, medium-sized stems should be sought. Again, I fancy topping the plants at certain stages of their growth has lately been too often the cause of failure. This item was unknown to cultivators a dozen years back. Firm potting, ordinary soil, and a steady uninterrupted growth were the tenets of culture then. A leading division of incurved flowers is that known as the Queens. The first, namely, Queen of England, was raised from seed somewhere in the fifties. It sported a white, named Empress of India, and a buff-yellow, golden Queen of England. These in turn sported at various times, so that we have now nearly a dozen in the family. Besides those already named there are Golden Empress of India, Lord Alcester, Alfred Salter, John Doughty, John Lambert (an improved Golden Queen of England), and Mrs. Robinson King. These are all distinct and set-rate varieties. Good specimen blooms of this class do not bear their inch-long cross petals nearly 4 inches deep. They should be bold and ball-shaped, the petals clean, evenly arranged and of good substance. Lord Alcester is perhaps the most model-like of any. In fact it is the finest incurved Chrysanthemum in cultivation.

It cannot be said that our new sorts reach the above standard. Globe d'Or, Chas. H. Curtis, J. Agate, and Major Bonaparte, were seen in good condition last year, but not one of them is so perfect a flower as a well grown "Queen." Next in importance is the group which has sprung from the variety Princess of Wales. This is a particularly neat set, good blooms of which are not so large as in the foregoing, but scarcely less attractive. Mrs. Heale, Miss M. A. Haggas, Mrs. J. Coleman, Lucy Kendall, and Violet Tomlin are all distinct flowers of the type. They have rather narrow

petals which build up into a shape slightly pyramidal. Very strong plants of this family seldom produce perfect flowers. From such we usually find a superabundant number of florets; these refusing to open in a characteristic manner. Of the remaining stock families there is also a long list. Heron of Stoke Newington, Lord Dorothy, Charles Gibson, and Mrs. Norman Davis are the best. These varieties are somewhat late, and consequently there is a difficulty in getting them open in time for the early November shows. They are, however, so neat and pretty that every effort must be made to obtain them for exhibition. The foliage of this group is very dense, and therefore it is needful to give them the sunniest positions during summer for the purpose of obtaining ripe growth. I would grow them near a wall if possible. Jeanne d'Arc and Brookleigh Gem are also two good sorts, but from early buds the flowers are not of nice shape. Mme. Darrier is one of the few excellent kinds raised in France during recent years. Lord Wolseley, Prince Alfred, Robert Petfield, Nil Desperandum, and a few others are first-rate varieties.

Incurved Chrysanthemums are deficient in colour, that is, there are no rich crimsons and similar shades among them, Mons. R. Bahuvant, Refugelius, Baron Hirsch, C. B. Whittall, and the like being far from perfect types of the flower. Mrs. R. C. Kingston, of American origin, is not at all a bad sort of recent raising, but as I have already remarked, the advance in superior kinds is very slow. I have seen several collections of Chrysanthemum where the incurved varieties are well represented, and I think in better condition than usual. The large Jubilee class of the National Society should prove tempting and bring good competition, although sixty specimens of incurved blooms is a number that will tax the resources, not to say the patience, of even the largest grower.

C. W.

LARGE CHRYSANTHEMUMS IN VASES.

ALTHOUGH the display of Chrysanthemums at the October show of the National Chrysanthemum Society was considered, by those competent to judge, to be of a somewhat meagre character, there were features in the exhibition which specially deserved the attention of those who have the best interests of the society, and also the flower, at heart. That to which I more particularly refer is to the class in which two vases of Chrysanthemums, each to contain twelve large flowering varieties, with suitable foliage in addition, were asked for. This class was only instituted last year, but the present year has shown the wisdom of retaining it in the schedule. There were in all five competitors, and the display made by the ten vases was certainly interesting. Vases of different designs and patterns were utilized, a pair of oriental vases of large size being most conspicuous. Flowers of handsome form and large size were arranged with grace and beauty, a proper regard for a pleasing blending of the colours being in most instances observable. Perhaps some of the vases were rather smaller than the merits of the case deserved, a larger vase being calculated to set the blossoms off to greater advantage. The addition of bright pieces of autumnal foliage, as well as a number of bright green fronds of Ficus, Asparagus, and similar material, enhanced the beauty of the arrangement very considerably. The long drooping foliage of Ampelopanax, Smilax, and other elegant hanging material could not be used with advantage in the smaller vases, and consequently a finishing touch seemed lacking. The large oriental vases already alluded to were the exception, and in these the drooping foliage and some prettily toned Brecken lent attractiveness to the picture. Apart from this one failing the display was highly meritorious, and emphasizes the necessity for giving still further encouragement to this form of exhibiting large Chrysanthemum flowers. There is little doubt that the general public are interested in this more natural system of exhibiting the blossoms, as by its

adoption the value of large flowers for filling vases as drawing-room decorations, and also for sideboard use, is clearly demonstrated. After all, the majority of people prefer to grow their flowers for the pleasure they derive from seeing them in their own homes arranged in a variety of ways. At each of the Jubilee shows there are classes of a similar character, and others in which the useful little pompon flowers are provided for.

GROWER.

New Chrysanthemums.—New varieties are always interesting, especially when their source is a well-known one. From France we have of late years been accustomed to obtain varieties which show a distinct advance on existing kinds, to wit, Mme. Carnot, M. Chenon de Leche, Reine d'Angleterre, le Moucherette, and Directeur Tisserand. This year we are promised several new kinds, some of which cannot fail to be of interest, and useful, not only to the exhibitor, but to those who love fully developed blooms for home decoration only. Mme. Gustave Henry promises to become an acquisition to an already long list of Japanese varieties. The opening blooms remind one somewhat of those of Stansted White in its best form. The long semi-incurving florets are creamy white. The bloom when fully developed promises to be extra large, and, what is an important phase in this variety, such blooms are produced by plants under a yard high. M. E. Rosette is unique in the length of its peduncles, plants growing but 3 feet high have the flower stem nearly as long as the plant itself. The florets are narrow, twisting irregularly and fringed. The colour is pale, opening sulphur white and closing pure white. Le Cheneau belongs to the Japanese improved section, perhaps just too much of that form to be really effective. The colour—rose-pink, silver reverse, is pleasing. We have none too many bronze-yellow-flowered varieties even in the Japanese section; therefore Roger de Chezelle will be welcomed if its ultimate development warrants its present form. The florets are semi-incurved, the bloom of large size. Edith Tabor promises to maintain the high opinion formed of it last year. It is of easy growth, as a yellow flowering variety it will be conspicuous in many winning stands this season. Amongst early flowering Japanese varieties Barbara Forbes is an acquisition, the creamy white loosely incurving floret form a massive bloom the first week in October, or even during the last half of September.

SHORT NOTES.—CHRYSANthemUMS.

Chrysanthemum Comtesse Foucher de Cariel.—The colour of this early-flowering sort is a terra-cotta bronze. It has a dwarf, bushy habit, and is altogether an acceptable variety for outdoor growth.

Chrysanthemum Surprise.—This variety, though not thought highly of last year, has developed into one of the best of its type, a deep reflexed Japanese bloom of a bright amaranth colour. The plants do not grow 3 feet high.

Chrysanthemum Mile. Eulalie Morel.—This is a first-rate early-flowering variety. It grows into a bushy form about 2 feet in height, the blooms well formed and of good size. In colour, its shades of mauve and yellow make a pretty contrast.

Chrysanthemum Oceania.—This Australian variety promises well. It is a large, broad-petaled, incurving Japanese. The colour, bright yellow, is clear, and the flowers have a beautiful finish. In habit of growth it is dwarf and strong, with nice dark green foliage.

Chrysanthemum Emily Silsby.—This English raised sort is valuable for blooming in October. I should, however, think more of it if the constitution of the plant were a little stronger. The flower is large, well formed, and the petals are of unusual substance. Colour creamy white.—S.

Chrysanthemum Pallanza.—This variety and Sunflower (an old favourite) are so much alike that it will be unwise to exhibit them in the same stand as distinct sorts, that is when grown from early buds. From late ones Pallanza is deeper in colour

than the variety named and also less drooping in form.—S.

Chrysanthemum Mme. Gustave Henri is among the first of M. Calvat's 1896 varieties that has been exhibited. The blooms are large and deep, the florets having a tendency to curl at the tips, thus forming a loosely-incurving flower: colour creamy-white. Its habit is dwarf and altogether excellent.

Chrysanthemum Ryecroft Glory.—As a bronze-yellow flower for October flowering, this kind is no equal, that is to say, for the supply of a quantity of medium-sized flowers. The plant forms a compact bush and is of easy culture. I would strongly recommend this to anyone for general growth as a pot plant. The variety does not lend itself to the production of large blossoms.—H.

Chrysanthemum Phœbus.—In every collection I have seen this year this fine yellow sort is most promising. It is easily distinguished by the particularly dark green foliage and its blooms are opening with regularity and grace, and finally finish in its florets an attractive characteristic. Its drooping formation is a type most esteemed, and it should be seen in abundance at the coming exhibitions.—S.

Chrysanthemum M. Chenon de Leche.—Among the newer varieties I expect this to come to the front. The combination of its colours makes the shade known as crushed-strawberry. It has a very dwarf habit of growth. The flowers, recurved in form, are very large and handsome. Many plants of it are barely 2 feet high, so that those who object to tall sorts should make a note of this, the best Chrysanthemum yet raised.—S.

Chrysanthemum Mutual Friend.—This is an excellent white variety. The flowers open with a slight tinge of pink in the petal which gradually fades, and they finish very pure in colour. Not the least of the merits of this sort is its dwarf habit of growth and capital foliage. I have tried it up in the open for the purpose of lifting. It seems useful for the purpose, and lifts with a good ball. The form of the bloom is broad and spreading, but not over deep.—H.

Flowerless creepers.—Having recently paid a visit to the south coast and the Isle of Wight, I have been wondering how the sea-side towns and villages there would look if devoid of the fresh and green or golden colouring of the various kinds of Japanese Euonymus so extensively used there on cottages, villas and bare walls generally. These Euonymus form quite a feature near the sea and without gates and salt spray at times when most other wall shrubs succumb or are rendered leafless and bare. But we have a host of other fine-folaged climbers, such as Aristolochia Siphon and the great-leaved Vine of Japan (*Vitis Colgnetii*), that could not well be replaced from our gardens and we should like to think what London and its suburbs would be without the Virginia Creeper or the Vine. One of the freshest and best of all wall shrubs is the common Fig tree, and seeing the luxuriant way in which it thrives in the close and dusty areas, even in the very heart of the city, the wonder is that it has not been more generally planted. The Fig and the Mulberry are without doubt two of the best of town trees for limited areas where something green is required.—VERONICA.

Damages by water rats.—On page 248 a note appears alluding to the destruction of the newer Water Lilies by rats, which, where they abound, create havoc not only in the water and bog garden, but also in the herbaceous border. In my own garden these pests used to bite off the fronds of *Osmunda regalis*, that grew by the side of a streamlet, apparently from sheer love of mischief, as the fronds were left where they fell, the stems being simply gnawed through. Hart-tongue Ferns were also treated in a similar manner, and *Hemerocallis* and *Leucopium aestivum* growing on the bank, were also attacked. A large clump of the variegated Water Flag, which grew close by the side of the opening through which the water made its underground exit from the garden, was bitten off about 4 inches from the ground level during an autumn night. In all the foregoing instances the plants, being rarely more than 1 foot from the water, were within easy reach

of the rats. One December's night, however, the ravagers made a foray in the herbaceous border 10 yards distant, where they dug up and carried away a batch of *Campanula pyramidalis* that had been planted two months earlier for flowering during the ensuing year. In all cases but one, where a portion of the root was left, not a vestige of the plants was to be seen in the border, but a few leaves by the runnel's side betrayed the identity of the delinquents. This occurrence altered my views as to the wanton destruction theory, the roots being evidently driven out to provision the waterside larder. Where water rats are not resident in a garden, but arrange incursions from neighbouring territory, it is difficult to make much impression on their numbers; at least, this has been my experience.—S. W. F.

GARDEN FLORA.

PLATE 1089.

CUSHION IRISES.

(WITH A COLOURED PLATE OF IRIS ATROFUSCA.*)

These Cushion Irises as a general rule are only rarely grown with continued success. Yet their beauty is so great that some enthusiasts continue to experiment year by year in the hope that they will render the culture of these lovely flowers fairly easy. It was by mere accident that, upwards of twenty years ago, I got what proved a valuable hint with regard to this very group of Irises. The species was the well-known Susiana, and, anxious to do my best with it, I had given the plants special treatment and grown them in pots. I had only a few plants at the time, and though some made capital growth, I was not successful in getting even one flower. Late in spring, however, the frame that had protected the plants during winter was required for other things and the plants were placed outside. By some means two of the plants were turned on their sides, and possibly were in this position for some considerable time, but on being discovered they were decided superior to those plants which had been receiving more or less daily attention, and where a more or less growing state had been kept up. When later in the year the plants were repotted, the difference was so marked in these two plants that I was naturally led to consider the advisability of drying the plants off periodically, with the best results. In May, 1875, I exhibited, as one of eighteen plants at South Kensington a specimen of *I. iberica* (unfortunately reported as *Iberis* at the time) with eleven expanded flowers and others to follow. The plants were lifted from a bed I had treated in the following manner: Having regard to the dwarf stature of the plant and the admirable way in which I had noted some of the commoner kinds of dwarf Iris succeed as edgings, the soil given to *I. iberica* was, when trodden down firm, only about 3 inches deep. This amount of soil, placed on a hard coal ash bottom, was made very firm, and when finished, the surface above the surrounding level would be about 5 inches or 6 inches. About 100 plants were included in the original planting, and in the first season made fair progress. The second year the plants had formed compact little tufts, some of which carried as many as four of their dwarf spikes, exceedingly beautiful amid the gracefully arching leaves of this species. The position they occupied was in full sun, the surface slightly sloping, and the soil poor loam, with brick and old mortar.

* Drawn for THE GARDEN by H. G. Moon in Mr. Perry's nursery, Winchmore Hill. Lithographed and printed by J. L. Gollart, successor to Gualtame Severeys.



rubbish added. In planting, care was taken to make the surrounding soil as hard as possible without injuring the tiny rhizomes. Very solid planting and only a minimum of soil, so to speak, and this by no means rich, are points of considerable importance in their culture. Indeed, in this connection I have wondered whether anyone has attempted to grow any of these Cushion Irises as an edging against the gravel path. Take *I. nudicaulis* and others near akin, all of which I have seen flowering each year in this very position, and always in much finer condition than in any border or prepared ground. Of course, *I. nudicaulis* is so distinct and so easily grown anywhere, that I by no means pretend to compare it with any of the lovely things in the *Oncocyclus* group. There is another point that I do not remember to have seen noted, and that is the desire to seek the side of some hard substance. For instance, in growing *I. Susiana* in pots, placing three of its roots in a 6-inch or 7-inch pot, I have always put the growing point near the side of the pot, and invariably I find the roots descend down the side, so much so that the majority of the root fibres occupy this position. It is not a rich or elaborate mixture of soil that these beautiful Irises require so much, perhaps, as distinct treatment while growing and equally so while resting. And, again, the soils of various gardens, as also the gardens themselves, are so varied, that what could safely be recommended for one may mean utter failure in another with such fastidious subjects as these Irises. In a garden where the soil is mostly clay and very heavy and retentive, I would raise the bed in which they were intended to be grown at least 9 inches, and further by means of a good hard bottom of coal ashes, or the like, endeavour that the Iris roots should be kept from contact with the clay. Such a raised bed, or a contrivance of a very similar kind surrounded by boards or planks 9 inches deep, may often have been seen in hardy plant nurseries. Two of these, one above the other, will admit of the necessary amount of soil, the drainage below, and head-room above to place a spare light over the subjects when signs of maturity arrived; or the plants may at planting time be so arranged that a handlight may be placed over each kind separately. In the light soil of the Cambridge Botanic Garden, Mr. Lynch did not, at least some years ago, find it necessary to raise the soil, but planted on the ordinary level several kinds with a fair amount of success, covering them with bell-glasses during the resting season. Had I a choice of positions I would certainly select the raised border with a sunny aspect, and where I could deluge my plants with water in March, April, and May, should this be needed, and yet feel that it would quickly pass away without in any way souring the soil. The soil may be very gritty loam, one freely charged with road sweepings or charcoal dust will do well, or failing this some powdered brick and mortar rubbish will answer the same purpose. In some districts burnt ballast is abundant, and this is excellent for many things that are not the easiest of subjects to manage.

Then as to time of planting, from the beginning to the end of October is good, and though

they may be planted later with success, it would not be advisable to start much earlier than the time named. Exceptionally firm planting I am inclined to regard as most important, and for those I have grown I have closely practised it, so much so indeed, that upon more than one occasion I have trodden down the soil between the rows of the small-growing *I. iberica*. A solitary tuft of this dainty gem among Irises may be grown wedged as it were between two small blocks of sandstone, the two blocks descending say a foot into the earth, and meeting in wedge shape below would form a cavity for the soil and the plant, while above, a small piece of glass would throw off the wet when not required by the plant.

To attempt to describe the lovely forms of these Cushion Irises is next to impossible. The year 1896 has been especially fruitful in exhibits of these, several kinds having been exhibited at the Temple show, Mr. Lynch bring-

panion for *I. iberica*, *I. Gatesi*, *I. lupina*, *I. Korolkowi*, *I. Leichtlinii* and others. *I. latifusca*, a new species, is beautifully depicted in the plate with the present issue. At a glance the characteristic shortness of the falls, as also the greater size and breadth of the erect segments, can be seen. The falls are of a rich dark velvet and the standards of mahogany and claret, passing away to lighter shades as varied as they are remarkable. The new-comer possesses a vigorous habit and is said to attain 3 feet high. It will doubtless prove a useful addition to this very remarkable section of the Iris family.

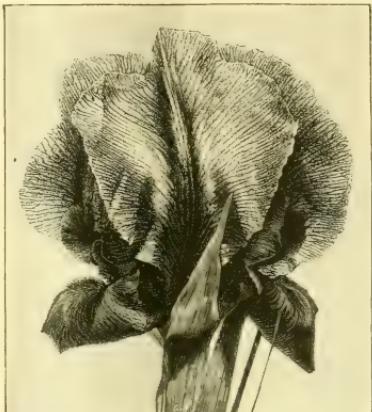
E. J.

THE WEEK'S WORK.

HARDY FRUITS.

GOOSEBERRIES.—In every garden there should always be a good quantity of these. The large early ones come in for gathering when green; some are valuable for dessert when ripe, while others are useful for preserving. In some gardens it is difficult to find room to grow everything required, as the demand far exceeds the convenience for production; but with a little forethought it is astonishing what an amount may be grown on a limited space. If cordons are planted against low fences or along the edges of walks, they take up but little room and will give a quantity of fruit. As the season has now arrived for taking such work in hand, it is advisable to consider the best form of tree to plant, with a view to securing the greatest possible return. It is a common practice to see cordons of both Apples and Pears growing alongside the garden paths as espaliers. If some of such space were devoted to Gooseberries they could be readily netted, and therefore made proof against birds where these are troublesome. It is, however, necessary to protect the buds as well as the fruit if there is to be a full crop. If trees are run up on single stems they should be planted about 15 inches apart in the row, that the air and light may have full play on the fruit. It should, however, prefer to plant two rows 30 inches apart; these could then be covered with small meshed wire netting. Where room can be afforded cordons should also be planted on north walls and against trees where the fruit can be protected from the autumnal rains. Before planting, the ground should be deeply dug and well manured, for it is astonishing the amount of nourishment a heavy crop of Gooseberries requires, and unless the soil is fertile the trees soon get worn out, therefore require replanting. Where there has been a severe attack of the saw-fly, it is a good plan to take up the bushes and remove the surface soil from about their roots, after which they ought to be taken to a fresh piece of ground and replanted, the ground on which they were growing being trenched, that all larvae may be turned under to a considerable depth. Where the bushes are not removed it is a good plan to dig amongst them and turn the pupae of these under, then, if a mulch is put on it is seldom they find their way through. The pruning of Gooseberries may be commenced at any time, the bushes being afterwards dressed with soot and lime to make the buds bitter and destroy the scale, should there be any. It will be necessary to repeat the dressing should birds be troublesome.

RASPBERRIES.—Where not already done, the old canes of these should be at once removed and sufficient quantity of the young ones selected to take their places. Do not attempt to shorten them at the present time, as this would in all probability cause the top buds to push should the autumn be mild. When planted in clumps, four or five of the best canes should be selected, and these should be tied up, first ascertaining if the stakes are sound. All suckers between the rows should be dug up and the ground given a good top-dressing. Where single rows are grown a selection of the best canes should be made, and these being tied up, all others ought to be re-



Iris atrofusca.

ing from Cambridge the lovely *I. Korolkowi* from Turkestan, as well as the beautiful *I. Loretii*, best described, perhaps, as a pink *Susiana*. The flower is of noble size and of unique beauty. A monster flower of this same kind came also from Mr. G. F. Wilson, Weybridge. These magnificent flowers were a great attraction, and, judging by the somewhat deeper tone of colour, and assuming that the flowers were from imported plants, the difference in colour affords some hope of their being seedlings. And if this be so, it is just possible that when we come to raise these lovely things from seed ripened in this country the seedlings may assume a greater vigour of growth as well as of constitution, and be more easily cultivated than is now the case. On May 5 last, at the Drill Hall, Professor Foster exhibited a most interesting series of hybrids of these flowers. Some of the finest forms of this lovely group have been referred to of late, but the most encouraging news is contained in THE GARDEN of May 30 (p. 413) of the present year, having reference to their success in the north of England. Besides those already named in these notes that should be in every collection of these plants, are *I. paradoxa*, a nice com-

moved. Young plantations may now be made, choosing short, well-ripened canes for that purpose. Of varieties I have tried, none excel Superlative. Raspberries like rich, fertile ground and plenty of room, that the canes may become well ripened. For those who only want a limited quantity, a single row running north and south will be sufficient.

MORELLO CHERRIES.—Trees of these growing against north walls should receive attention at the first favourable opportunity, and before the weather gets too cold. As soon as the leaves have fallen the trees should be taken down, that both they and the wall may be washed to free them from insect pests that may be lurking in any crevices. Do not attempt to draw the nails, as this would in all probability make holes in the walls, which would form a harbour for other pests. They are given a gentle tap on one side, they will break off clean, the brickwork in this way not being injured will be preserved; whereas if they are drawn out, small portions of the bricks and mortar are brought with them, causing the face of the wall in the course of a few years to present a dilapidated appearance. Many of the nails may be used over again if they are heated sufficiently to destroy insects. The walls should be thoroughly washed with a strong solution of some insecticide or soft soap water, to which a little petroleum has been added, taking care to work it well into all crevices. The wood, too, should be carefully painted with the same solution, after which nailing may be commenced. To some this may seem a waste of time, but from experience I find that trees so treated are seldom attacked to any extent with the black fly the following season. Having secured the leading branches, which should radiate as evenly as possible from the main stem, the shoots may next be laid in. If the trees have been properly looked after during the summer no pruning will be needed, but if this has been neglected, then it will be found that two or three shoots have usually sprung from the leading bud of the previous year, and will be at the base of this season's growth. Most, if not all, of these should be removed. I am no advocate for spurring Morello Cherries, and, therefore, recommend that all such shoots be cut off close to the old wood, so that the tree are not close to the wall and the fruit far better protected. Each growth ought to be allowed a distance of at least 3 inches from its neighbour, so that before commencing to nail, a calculation should be made to see that there is sufficient wood to cover the space evenly, that when finished the tree may present a uniform appearance. When all the leading branches have been nailed in, commence at their tips to lay in the side shoots and so work your way down to the base. In nailing it should always be borne in mind that the wood has to swell; therefore sufficient room should be left in the shreds for that purpose. The nails, too, ought always to be driven into the wall on the opposite side of the shoots to which it has a tendency to grow, that its pressure may be on the shred instead of the nail. It is a great mistake to use more shreds than are actually necessary to keep the tree to the wall, there being a harbour for all kinds of pests. Stout wood should either be made secure with narrow leather shreds or golden Willows; the latter if used green may be tied like a piece of string, and last for one season. When finished the tree ought to present a neat and even appearance, all the shoots being quite straight; the points of them ought to be so placed that if extended an indefinite length they would not come into contact with each other. When walls are wired for Morello Cherries the wires ought not to be at a greater distance from each other than 4 inches, otherwise it necessitates the use of a considerable amount of twine to keep the shoots straight. In tying them in care must be taken not to tie them too tightly, or the material used will cut into the wood. Where it is contemplated planting trees against walls sufficient space should be allowed between them to admit of an extensive growth. Those planted against a wall 16 feet high here ten years ago have reached

the top and their shoots meet, though the trees are 30 feet apart, thus showing the necessity for ample space. These trees are covered every season with fruit from their tips to their trunks even when severe frosts have been experienced in spring.

H. C. PRINSEP.

KITCHEN GARDEN.

ROOT CROPS.—The lifting and storing of the least hardy members of the root crops will now claim early attention, and on the means employed depends largely the quality of the roots later on when these form to a great extent the mainstay of the garden. It often happens that well-grown roots are spoiled in quality by the methods used or the time chosen for storing. As a general rule the later these can be left in the ground untouched the better they will be, and as a matter of fact such things as Jerusalem Artichokes, Parsnips, Salsify, Scorzonera, and Chinese Artichokes are best when taken direct from the ground to the kitchen, and as these are all thoroughly hardy this is the best course to pursue until after the turn of the year with all such, simply covering on the approach of frost the exposed portions of each plot with a few inches of long litter, enough to keep the frost out of the ground and to make lifting an easy matter. Those roots, however, which have to be dealt with now are

CARROTS.—These should be lifted on a dry day and when the soil is in sufficiently dry state to allow the roots to be lifted clean. Careful lifting is required to avoid bruised or broken roots. The leaves should be cut off close to the crown and the roots sorted over, putting all those which show signs of incipient decay at the crown or traces of injury from grubs—in fact, all roots which are in any way damaged, on one side for present use in soups, &c., only reserving those for the store proper which are perfect in all ways. Where there is a properly constructed root cellar, one which is cool, dry, and not too airy, the roots may be at once packed neatly in this, but such cellars are not common, and other means have to be found in the majority of gardens. The best alternative, and one which keeps the roots equally well, if not better than most root stores is to build them in the form of a clamp, as recommended a week or two back for Potatoes, choosing for the purpose the coolest available spot on a dry bottom, where shelter from rain or snow is possible. I do not practise the method generally recommended of putting sand or dry earth among the roots, but give particular attention to careful building of the clamp in sharp-pitched ridge form with the crowns of the roots all looking outward and fitting them all as closely together as may be. Only when the roots are touched by the grub do I pack anything between them, but in such a case I give, and recommend others to give, a good heavy dusting of dry wood ashes over each layer of roots in put on; this prevents the injury from spreading further or at least from increasing rapidly. As to covering to the roots I use Bracken, which is further covered with soil, and enough is put on to prevent evaporation and consequent shrivelling, which would spoil the quality.

BEET is treated in much the same fashion, but the leaves are not cut off, as cutting would cause bleeding and thus spoil both colour and texture, and for the same reason increased care must be taken not to bruise or break any portion of the main root. Should the roots have hangs these should not be removed at the time of pulling the crop, for the more nearly entire the roots can be stored the better they will be when cooked. Long Beet that has been well clamped up is generally pronounced to be of better quality than new roots of the Turnip-rooted section, therefore I take extra pains to bring them through in plump condition, and ad bridge the season with the long varieties only. Any coarse or overgrown roots should be discarded before storing, as such are never satisfactory, and I am

glad to find that these are not so common as they were last year.

TURNIPS.—Only those Turnips which are full grown should be lifted and stored as yet, and unless this is the case with the bulk of the crop, very little trouble need be taken with them, as early stored Turnips rarely remain of good quality for long, and it is far better to depend on those later roots which are still not fully grown. Big Turnips cannot, however, be kept in the ground without quickly becoming spoiled and the ordinary garden Turnips are especially liable in this way, as they soon get wet and dry, so it is best to lift them up, trim off the tops close down to the crown and place them in a hole, where they may be covered with a sufficient thickness of dry leaves to prevent them from shrivelling, and used from as occasion offers as long as they keep good and crisp. White skinned Turnips have run pretty much to leaf growth during the recent dull, wet weather, and the best keeping variety will probably be, as, indeed, it usually is, Chirk Castle Black Stone, which is forming excellent roots and burying itself under the surface in its characteristic manner.

GLOBE ARTICHOKES.—The growth of these plants like that of most others has been gross and sappy during the past few weeks, and the plants are being, in consequence, but ill-prepared to go safely through a severe or even a wet winter. Few plants vary so much when raised from seeds as do these, and the chances are that fully 75 per cent. raised in this way will be worthless, so that it is bad policy to depend on seedlings, and once a really good strain is secured, it should not be lost sight of. Where there is any danger of the plants dying out if left in the open during winter, as they sometimes will in low-lying districts, strong effects should be taken of snow from the established stools, potted up, and wintered in a cool and dry house or larder, where they will be safe from frost, and can be protected from very severe frost. The suckers should be cut off when a few roots are developed, and potting, unless the potting soil is quite dry, should not be done until all bleeding from the point of severance has ceased. It will be well also to dust a little dry lime on the cut surface, as this will prevent decay. Another method of preserving a choice stock of these Artichokes is to lift whole stools and winter them in boxes under glass, or the stools may simply be packed close together and have their roots covered with dry soil or coal ashes. This, however, is a laborious method, especially when the stools are old and big; but it has its advantages, as the suckers can be taken off from the stools and potted in the spring, when they will be more certain to succeed than they are when taken off at this time of the year. As regards the treatment of old stools left in the open, I do not advise that these shall be protected for some weeks to come, for when the protecting material is put on early it is apt to get soddened, and in this state is far more dangerous to the plants than full exposure would be. Heads which are fully grown or big enough for use should be cut on a dry day and put in a cool place, where they will remain for several days fit for use.

PARSLEY.—At this time of the year the older Parsley leaves frequently fall off, and if they are left on the plants the injury spreads to the younger sprays. It is an excellent plan to go over the plants now and pick off as many of the older leaves as can be spared, leaving the plants with a somewhat bare appearance, from which, however, they soon recover. This denuding plants of foliage seems on the face of it quite wrong, and would be so with most plants, but with Parsley it only appears to give a decided impetus to the formation of new leaves, which will remain green and bright throughout the winter.

LOAM.—October is by far the best month in which to cut and stack loam, especially where this can be got from a recently-felled pasture ground; and I advise that the work be seen to as soon as may be, as the soil will then become mellow and pleasant to work with by the time it is wanted in bulk next spring.

J. C. TALLACK.

SEPTEMBER IN SOUTH DEVON.

DURING the past September, rain has fallen on twenty eight of the thirty days to the amount of 5·45 inches, against 0·28 of an inch on two days in September, 1895, and an average for the month of 2·23 inches. In the first nine months of the present year 14·62 inches have fallen, against 16·83 inches for the same period in 1895, and an average of 23·04 inches, so that during the past month we have pulled up 3·22 inches on the average fall for the nine months, and 17·17 inches on the 1895 fall, which latter were now but 2·21 inches behind. In the first nine months of 1895 there were ninety rainy days, while this year there have been 108 in the same period. The mean temperature for the past month has been 57·9°, which is 0·3° below the average for September, and 3·0° below the reading, 60·9°, for the month in 1895. The lowest temperature in the screen was 45·6° on the 21st, the lowest on the grass, 40·4°, being recorded on the same date. The highest screen reading was 67·1° on the 26th, and the highest in the sun 114° on the 10th. The month has been a very sunless one, only 105 hours' sunshine having been registered, compared with an average of 164 hours 25 minutes, and a record for September, 1895, of 213 hours 45 minutes. For the whole nine months we fall slightly below the average of 1480 hours 10 minutes, 1469 hours 25 minutes having been recorded during the present year, and the unusual amount of 1644 hours 15 minutes in 1895. The wind has been particularly boisterous, the total movement being 8639 miles against 3175 miles for September, 1895. The greatest movement recorded in the day was 784 miles on the 25th, and the greatest hourly rate was reached between 2 and 3 p.m. on the same date, when a speed of 46 miles was attained, the velocity in some of the gusts, however, running up to a rate of between 70 and 80 miles per hour. The direction of the gale, which was the heaviest of the year, was from west by north-west. During 25 days of the past month the wind has been from south or west, and for the remaining five days north to east. The total horizontal movements for the nine months have been 58,584 miles in the present year, and 56,920 miles in 1895. The mean humidity of the month has been 87 per cent., against 80 per cent. in September, 1895. The ozone percentage, 66·7, ranged from 5 per cent. with east wind to 85 with south-west. The gale of the 25th wrought dire havoc in the garden. Tall Starworts and perennial Sunflowers were levelled to the ground, climbing Roses and creepers of all descriptions were torn from the walls, while the tuberous Begonias, then a glorious breadth of scarlet, were torn bodily from their bed and scattered broadcast on the lawn. The wind, which during the night had blown from the south-west, veered with daylight to north-west, and, with the mercury rising at the rate of one-tenth of an inch per hour, roared down the deep valley with ever-increasing force, the crash of falling trees and the rending of giant branches rising ever and anon above the tumults of the storm, that before it moderated, which it did during the afternoon, had blocked all the intersecting alleys with prone trunks and torn limbs of Elms and Oaks, while the bushes were blighted with full-foliated boughs and methods of scattered leaves. On examining the debris of the gale, one was struck by the seemingly capricious manner in which the wind had used its strength ; here, in an apparently sheltered corner surrounded by neighbouring trees, some of which had been broken by its fall, lay a large upturned Elm, while just in the track of the storm an equally fine specimen was not bereft of a single branch. Elms, which flourish in large quantity in this locality, were the chief sufferers, and in an adjacent park the symmetry of many noble specimens which are still standing has been ruined by the loss of huge limbs, while in this respect some of the old Oaks have also fared badly, and Spanish Chestnuts have suffered serious disfigurement. The Ashes, of which there are several fine examples around, show but scant sign of damage, the tempe-

meeting with but little resistance as it tore through their large-spreading branches. A fine Syringa with a wide spreading and thickly-growing head, which stood alone on a hillside exposed to the full force of the gale, was absolutely unharmed, though at times, as a more furious gust than usual caught its heavy top, it seemed as though it must be lifted bodily out of the ground.

The Michaelmas Daisies have afforded their ever-attractive display in the garden. The large-flowered ones of the Amelanchier baccatae are a great advance on those produced by the type. A. Novi-Belgii, Archer-Hind, Rose, Flora, and Harpur-Crewe are exceedingly handsome, though this September the two former had not attained the zenith of their beauty when the storm swept down upon them, of which attack not even the most careful re-arrangement of shoots and additional deftly hidden supports have obliterated the effect. A. nivea and A. polyphyllus, or a Starwort that I have under that name, are two good whites coming into bloom slightly later than Harpur-Crewe, while Pluto and Flora, different shades of lavender-purple, form fine masses of colour. The lovely A. ericoides, with its spreading shoots studded with minute white blossoms, should be in every garden, and A. cordifolius elegans, not far removed from ericoides in habit of growth and having flowers of light lilac, is almost equally charming. A. diffusus horizontalis has less beauty to recommend it, but as an old-fashioned flower probably to be found in more cottage gardens than any other Starwort, though in some districts the native A. (or Chrysocoma) linscortis, commonly called Goldilocks, runs it hard. A. dumosus, a very dwarf growing variety, often not exceeding 1 foot in height, does well in the rock garden, producing a solid mass of flowers, haunted throughout the day by an ever-shifting company of bees. One of the finest Aster's, A. pulcherrimus, a strong-growing variety, that bears a profusion of blossoms of a fair lilac, almost approaching white in colour. The individual flowers are of good substance and size and are many-petaled. Whilst writing on this Aster I may mention that if Starworts are used for indoor decoration for which their exquisite colour gradations and the grace of their tall branching flower-shoots render them so well fitted, the stems should be split up for some inches with a sharp knife into four sections before they are inserted in vases. Happening the other day to place a spray of the last-named Aster in water without splitting the stem, I found the next morning the flowers with limp and drooping petals, an eyesore rather than an object of beauty ; removing the spray, I treated it as before described, with the result that by evening the flowers had regained their freshness, which they subsequently retained for six days. The Nova-Angliae section of the Asters, which often expand their blooms so tardily that they are marred by frost, forwarded by the hot summer, commenced to flower freely in September. Ruber, a red, and Melpomene, a dark purple, are two of the best of this section Achillea ptarmica f.-pl. The Pearl has not been flowerless, and the white Japanese Anemone Honorie Joubert has provided a constant supply of snowy blossoms for the house. Campanula glomerata and the white variety have given a sparsely autumnal blossoming, and here and there strayed Delphinium spire towers splot in the herbae coeruleo border. The Marguerite Carnations have come into profuse flower, which has, however, been somewhat damaged by the constant rain. On the clumps of Funkia ovata and F. o. var. gata a few lilac blue flower-scapes have remained, and the last of the Cape Hyacinths (Galtonia canaliculata) have contrasted their ivory bells with the blue of Salvia patens or the dazzling vermilion of Lobelia cardinalis, the tall spikes of which, arranged with large, sulphur-hued Paris Daisies, forming a charmingly artistic decoration. A reddish-purple hybrid from Lobelia syphilitica and a particularly pleasing bright pink variety called L. rosea, supposed to be a cross between L. syphilitica and L. cardinalis, have also been in bloom. The Gaillardias have continued their dis-

play throughout the month, which has also been brightened by the Helianthus family, of which the brilliant yellow H. latifolius with the large flowers borne on stems 7 feet and more in height was the most effective, the varieties of H. rigidus and H. multiflorus being past their best are the month was many days old. Giant bushes of Hydrangea, the massive blossoms in some cases of a light blue tint, lighter tree-embowered drives with breadths of tender colour, while against a dark evergreen background the scarlet and gold flower-heads of the Kniphofia flame, and the red Geum still bears belated blossoms that make vivid notes of colour. The double Matricaria, with its Fennel-like foliage, has remained in bloom throughout the month, as have Oxalis floribunda roses, Plumbago Larpetae and Polygonum capitatum. Herbaceous Phloxes, Pentstemons and the tall Eustoma Lamarckiana, though in flower during September, lessen their display with the waning month ; but the white, slender-rayed stars of Pyrethrum uliginosum, lightly poised on long foot-stalks, are at their best, while the golden, black-centred blossoms of the handsome Coneflower (Rudbeckia Newmanii), a breath of warm yellow, seem to revel in the moisture of the still bright days of orange and yellow, by the shade called Physalis Alkekengi. Sedum Sieboldii has produced its late heads of rose lilac flowers, and the dark purple blooms of Stokesia coryne have contrasted with the scarlet blossoms of a neighbouring plant of Zauschneria californica, while Veronica multifida has perfect a crop of autumnal bloom.

The weather of the month has been sadly against the Roses, but flowers from certain of the Tea section in sheltered situations were to be culled on most days. Of annuals, the miniature Sunflowers and Sweet Sultans have been amongst the most showy. The sweetly-scented blossoms of Escallonia montevideensis have during the sunny glimpses attracted, as usual, the handsome red admirer butterflies, the scarlet and black of whose livery were shown off to the best advantage by the creamy masses of flower. Bushes of the Rose of Sharon (Hibiscus syriacus) have been covered with their purple and white blooms, the latter variety being by far the more ornamental; while the orange berries of the See Buckthorn (Hippophae rhamnoides), borne in thick clusters amongst the glaucous foliage, have had an exceedingly pleasing effect. The standard Magnolia grandiflora has bloomed as profusely as in the preceding months, the blossoms, however, being rather smaller. The fruit of the Persian Fig-tree, having ripened tint early this month, for before September had well commenced its turn the orange globes, like fairy lamps, were hanging in hundreds amongst the dark greenery. Tropaeolum speciosum, though still in bloom, is not so conspicuous as earlier in the season, but T. tuberosum is at its best, and where it flowers freely has wreathed paling and wall with scarlet and gold. Solanum jasminoides, lavish of bloom as ever, was in many cases damaged by the gale, large breadths of flowering shoots being torn from wall and archway.

Apples from young bush trees on the Paradise root have been a good sample, and quite up to the average in quantity as well as quality. Biarritz has been particularly prolific, while many of the fruits have turned the scale at 1 pound. Peasegood's Nonsuch has borne handsome fruit of the same weight, while Bramley's Seedling has produced even heavier examples. Lane's Prince Albert has a quantity of three-quarters of a pound fruit, while Cellini runs up to 1½ lbs. and King of the Pippins to 10 ozs. Cox's Orange Pippin was a fair crop, some reaching 8 ounces. All the Apples were clean and well coloured, and showed no signs of fungoid growth.

S. W. F.

Cotoneaster horizontalis (Decaisne).—Although at present one of the most uncommon of Cotoneasters in nurseries and gardens, there is this no species in cultivation more handsome than this and none so distinct in general character. It is, however, becoming better known, and there is no

doubt that in a few years' time it will be as popular as any. Its most distinctive feature is its flat, horizontal habit, the branches standing out rigidly and being arranged in a distichous manner. Grown against a wall—which is advisable on account of the greater crop of fruit it produces there—it does not need any support, its branches following the wall just as they follow the surface of the ground in the open. The young wood is covered with a thick brown tomentum, and the leaves, which are about one-third of an inch long, broadly ovate and pointed and of a dark lustrous green, are so abundant as to leave scarcely an empty space. Like many of the Cotoneasters, it is evergreen in mild winters. The small white flowers are borne in May and the plants at that time are very pretty, but they attain their greatest beauty in autumn, when the branches become

now several thousands in bloom, notwithstanding the severe weather. The Italian Aster, with its varieties, is far handsomer than any of them, and *A. acris* is more beautiful in colour.

STOVE AND GREENHOUSE.

ALOCASIA METALLICA.

THIS species was introduced from Borneo about 1860, being one of the many excellent things sent home from time to time by the travellers employed by Messrs. Hugh Low and Co., of Clapton. It was in the nurseries of this old-established firm that I first saw it under cultivation early in 1861, prior to its being sent out. It

its leaves so long or in so perfect a condition under good cultivation. It is not predisposed to damp off at the points of the leaves as in *A. Lowii*, the white or silvery margin of the latter being more liable to this failing, nor is it a plant that is at all liable to attacks of insect pests. It has the essential properties of a useful decorative fine-foliated plant, whilst it is quite small, and if grown as such now-a-days and associated with the new race of Caladiums quite a pleasing contrast would be afforded. For this purpose the small bulbils should be chosen in preference to the larger and more fully matured ones. These latter will yield much the finer foliage, but the habit will not be nearly so good. From three to five of



Alocasia metallica. From a photograph sent by Mr. B. Warner, Inwood, Blandford.

thickly covered with bright red, almost scarlet, berries. These are Pear-shaped and scarcely so large as the *Crataegus Pyracantha* berries. This species can be increased by means of seeds and cuttings, the latter being made of nearly ripened wood with a slight heel attached and put in during August. It is a native of the Himalaya and quite hardy.

Seedling Starworts.—Whoever started the raising and naming of seedlings of the common American Starwort has done no good to flower gardening. Those who grow these Starworts in quantity find seedlings coming up in all directions, some of them handsome plants, but to name them is a mistake. Mr. T. Smith has just sent us from Newry a very bright lot, but in no case are they better than and rarely so good as the wild types. They are mostly forms of the New York Aster, and they are in every case inferior to the European Asters, of which we have

was with no small amount of astonishment that this handsome fine-foliated plant was viewed, being so entirely distinct from anything else belonging to the same genus or any allied one as the Caladium. From that time to the present it has not been surpassed in the richness or beauty of its foliage by any other species. True, we have *A. Lowii*, *A. Sanderiana*, *A. Thibautiana*, and other kinds, all distinct, but none of them equal to *A. metallica*, or *A. cuprea*, as it is sometimes called. It has been used for hybridising, one of the best kinds raised being *A. Sedieri*, which was the result of crossing it with *A. Lowii*, another result of the same cross being seen in *A. hybrida*. *A. Cheloni* owes its origin to the crossing of *A. metallica* with *A. longiloba*.

The durability of the foliage of *A. metallica* is very great, for no other species will retain

the former when well established in a 6-inch pot will be most effective, or if smaller examples be needed then grow them singly in smaller pots. When pulling an old plant to pieces it is easy to obtain a good supply of these useful bulbils for this purpose. In the

CULTIVATION

of large or medium-sized plants it should be made an important item of culture to shake out the plants once in two or three years, completely denuding them of the soil, which by that time will have become sour or be otherwise exhausted. The old bulbs will also bear shortening below where any fresh roots are likely to be emitted. All decaying roots or other matter should be removed, and, if needful a washing should be given in tepid water, after which silver sand should be shaken over the bulbs.

In making up a plant the bulbs should be regulated according to sizes and in numbers according to the size of plant that is required, as any after shift need not be attempted if the plant thrives well. It is not advisable to overcrowd, in any case better dispense with some of the stock than do this. Large pots or tubs, or what is better still a shallow pot, will suit this plant when specimens are needed. Whether in this way or as plants of intermediate size, an abundance of drainage is most essential. Ordinary pots may have smaller ones inverted in them, and then a plentiful supply of clean washed crocks on the top. A layer of fresh Sphagnum Moss is the next article to use; this will assist fresh root action and also prevent the soil from passing downwards in small particles to a great extent. Peat, as used for Orchids, broken up roughly with a free mixture of charcoal, silver sand and Sphagnum, is the best compost to employ. Do not use either loam or leaf soil in the culture of this species. The process of making up or repotting is very similar to that obtaining in Orchid culture, care being taken to keep the whole well elevated above the pot, 6 inches being none too high. A surfacing of Sphagnum should be given as a finishing touch. The treatment of smaller plants should be similar, the few leaves that are in any case then remaining should be supported with sticks. Bottom-heat is most essential from this time onwards until root action is once more going on freely, then it may be dispensed with. The following season the surface soil should be carefully removed and fresh material of a similar nature added. When growth first commences it will be flowers more often than not, these should be pulled out at once so as not to exhaust the plant. When well established, liquid manure will greatly assist the growth, but let it be given occasionally rather than frequently. The warm stove is the best place for *Alocasia metallica*, with shade during the sunniest months of the year. The minimum temperature for the winter should not be lower than 60°. The moistest part of the stove is always preferable.

SOUTHRON.

Lily of the Valley forced.—The beauty of the second prize group of plants at Derby show was greatly enhanced by a free admixture of Lily of the Valley, some of the spikes having as many as a dozen bells, all fully developed and of snowy whiteness, the delicate green foliage setting the flowers off to advantage. These were tastefully arranged in Moss around the base of the smaller mounds in the most conspicuous positions. These fine spikes were, no doubt, produced from the frozen crowns. Although I have never tried them myself, I am informed that very little heat indeed is required to induce the crowns to throw up the blooms, which seems quite feasible, considering the long rest they have had.—J. C.

Stenophyllum americanum variegatum—This is far better known in gardens as *Stenophyllum glabrum variegatum*, but in the "Dictionary of Gardening" its correct name is given as above. It is a creeping grass, which produces a tuft of leaves at every node. When running along the ground, roots are produced from the lower part of every tuft, so that it will soon cover a considerable space. It is not, however, in this way that the *Stenophyllum* in question is particularly valuable, but it forms a first-rate basket plant, which with but little trouble is effective all the year round. In the reptile house at the Zoological Gardens the green-leaved form is particularly noticeable, for a large hanging basket is completely covered with the long, thin, "thong-like" stems, and their tufts of leaves disposed at regular intervals hang down for 4 feet or 5 feet. This *Stenophyllum* will grow in a greenhouse, though it thrives better with a little more heat,

and it gives very little trouble at any time provided it is regularly supplied with water.—H. P.

Carnation Miss Joliffe.—I fear that, owing to the heavy rainfall during the past few weeks, the death-rate amongst plants of this Carnation will have been greater than usual. Under such conditions they soon take on a sickly whitish colour, and then nothing will save them. My plants were laid on their sides for some days, which is imperative during extra rainy periods, if they are to be saved. In such wet weather as we have experienced of late the necessity of plenty of rough ashes beneath the pots is proved, as where these are deficient, the pots, becoming heavy by being saturated, are forced into the ground, with the result that the hole at the base is often completely blocked up, thus preventing the escape of superfluous moisture impossible. I am now (October) housing all the winter flowering Carnations, and they will be kept as cool as possible day and night and fumigated at once.—J. C.

Carnation Duke of Fife.—Although very shy of buying new Carnations as a rule, I think I shall not season grow *Duke of Fife*, as from a specimen I saw a few days ago I consider it a fine variety. The flowers are crimson, only a 4½-in. pot, but was exceedingly healthy and covered with bloom-buds, two fully expanded flowers being on it. In growth and general habit the plant favours Winter Cheer, but the colour of the flowers is a lighter red, much in fact in the way of that of *Alegarieira*. Winter Cheer, although an unquestionably fine variety, has in the hands of some cultivators a nasty trick of turning up at the edges and becoming black when three parts expanded.—J. C.

ERANTHEMUM ANDERSONI.

SOME of the *Eranthemums* are remarkably pretty flowering plants for the stove, and included amongst them are very diverse forms, while their season for blooming is also variable. One of the most attractive just now is *Eranthemum Andersoni*, the subject of a coloured plate in THE GARDEN, January 6, 1894. It forms an erect growing plant furnished somewhat sparingly with large oblong leaves, while the shoots are terminated by long spikes of closely packed blossoms. The individual blooms are about an inch across, and pure white, except the lower lobes of lip, which is exquisitely blottedched with rich purple, like that of a mandarin orange. It usually blooms in the latter part of the summer or in the autumn months, but will sometimes flower in the spring. This *Eranthemum* does not naturally form a bushy specimen, and if stopped too freely during its early stages an increased number of shoots is obtained at the expense of blossoms, as the large massive spikes borne on the strong shoots are much more effective than the poor weak ones which result from over-stopping. Though this *Eranthemum* may run up rather tall it is extremely useful in this state for grouping. Propagation is best carried out in the spring, and cuttings root readily enough. It is a native of India and was introduced into the country nearly thirty years ago. Another species now in bloom is *E. alboflorum*, a sturdy growing upright habited kind, which flowers freely when little more than a foot high. The foliage of this is of a very deep green, while the terminal panicle of blossoms is not unlike a cluster of white Lilac. The above are the only two species just now in flower, but the earliest blossoms of *Eranthemum pulchellum* will not be long before they expand. This is perhaps the most generally useful of the whole genus, as the plants are naturally of a bushy habit, while the flowers which are of a beautiful blue are produced in bunches in the dead of winter. Another desirable member of the genus from a flowering point of view is *E. asperum*, whose blooms are borne in small axillary clusters. They are not unlike those of *E. Andersoni*, except that the purple marking extends over the whole of the flower. This blooms in the spring, and so does

the large-growing *E. cinnabarinum*, which will run up to a height of 4 feet to 5 feet. The flowers of this, which are borne in long branching terminal panicles, are large and of a bright magenta crimson colour. It is a valuable decorative plant in the spring. Besides these remarkable for the beauty of their flowers there are some whose foliage is the principal claim to recognition, but they are not so popular now as when first introduced, for most of them were sent here from Polynesia about the time that variegated leaved stove plants were so popular. The most notable of these are *E. reticulatum*, with broadly lanceolate leaves of a bright green tint, and heavily veined with gold, certainly a very bright and effective plant, while in albo marginatum the broad deep green leaves are edged with white, and those of *E. atropurpureum* are of a uniform rich purple tint. A curious combination of hues occurs in *E. tricolor*, the obovate-shaped leaves being marked with olive-green, greyish-purple, and salmon-pink, in ever-varying combinations. All of these *Eranthemums* are of very easy propagation and culture.

H. P.

Seedling Fuchsias.—Fuchsias are so readily propagated from cuttings, and there are so many recognised varieties of undoubted merit, that the fact that they can be easily raised from seed is very generally overlooked. If the seed is sown early in the year and the plants shifted on as required by midsummer many of them will be good flowering specimens in pot 6 inches in diameter. Then during the latter half of the autumn they will flower freely and continue till the spring is well advanced. It may be said that with the many varieties we have there is no need to increase the Fuchsias by raising seedlings, but when a batch is obtained in this way it is always very interesting to watch the development of the young plants. There is a great tendency in seedlings to run up tall, but when cuttings are taken from them and struck, the plants so obtained are usually of a dwarfer and more freely branching habit. Some of these seedling Fuchsias are from their vigour first-rate subjects for the pillars of a conservatory or for similar positions.—H. P.

Oxalis cornuta (Thunb.)—Your correspondent who describes his cultivation of this plant may like to know a curious fact about its distribution in the northern hemisphere. It is a native of the Cape of Good Hope and is tri-morphic, i.e., it is like our *Loosestrife* in having three forms of flowers always on different plants, with stamens and styles of different lengths, requiring insects to convey the pollen from any one of the three to another flower having the pistil of the requisite length. Now, no botanical author previous to this century refers to it as growing in the north. The first to allude to it is *Ater Giacinto*, who says it was cultivated at Malta in 1806. Only one of the forms is known there, though it now is everywhere all over the i-land as a most troublesome weed. Not contented with carpeting the roadsides in lieu of grass, it clothes the tops of the walls and invades the fields, which sometimes are as thickly filled with it and look as yellow a field of Buttercups. From Malta it quickly spread to Africa, and was recorded in 1824. About the same time it arrived in Egypt, being introduced with the Mandarin Orange, accidentally, no doubt, by Youssouf Efendi. It occurs now in the Orange gardens of Cairo. In 1826 it appeared at Gibraltar. It is also now to be found at Cannes, Naples, Sardinia, in some of the Greek islands, and Morocco. It is propagated entirely by bulbils, as it has never been known to produce any seed in any locality on either side of the Mediterranean region. It is remarkable for producing a double form, which is very common in Malta and elsewhere, but not to such a degree as the single. It has thus extended itself from one end of the Mediterranean to the other in ninety years.—GEORGE HENSLOW.

The weather and the crops.—I never remember seeing winter vegetables in such a soft and sappy condition at this time of year. Indeed,

it is quite evident that unless a change quickly occurs, and that, too, a somewhat lasting one, things in general will stand the winter badly, should such be at all severe. Young Strawberry plants, after growing freely, and the crowns anything but plump, while some sorts grown in pots for forcing are splitting their crowns badly, the earliest potted looking anything but likely subjects for placing in the forcing house in November. Where mischief was apprehended and the earliest batches were placed in pits and thus screened from the drenching rains, much advantage will have been gained, and fewer blind plants may be expected. "Winter Spinach" is in a soft, flabby state, and will get a severe check should frost soon come. Seakale, too, is actually making a second growth from the crown and will be useless for early forcing. The best way to fortify one's self against a wet, backward autumn is to plant a good batch on a south sunny border, and then if heavy rains and a scarcity of sunshine occur in September, to thrust the spade down deeply at the side of each plant in order to sever the tap-root and thus prevent a secondary growth. Even young Lettuces, Cauliflowers and Endive are none the better for being so luxuriant at this date, a fact which should induce gardeners to give protection in pits and frames as soon as possible.—J. C.

Cuphea platycentra.—After a severe storm of wind and rain it is pleasant to find a plant in the open air that has not been affected. After looking over the grounds on returning after the storm I was surprised to see how fresh and bright this Cuphea was. I have it planted in the front of some shrubs, beside other tender plants, such as Geraniums, Calceolarias, &c. These latter were so dashed about that every bit of colour was gone out of them. It is strange this is not more grown at the present time. When planted in a mass it is useful. It is of the simplest culture, as it roots readily from cuttings in spring, and by putting in a pot of cuttings in autumn, keeping them in a cold house through the winter, a large number of cuttings may be had in spring. Many years ago this and some other kinds were largely used.—DORSET.

FERNS.

ADIANTUM TENERUM VAR. FARLEYENSE.

FORMERLY, when Ferns were grown under green glass and heavy shading this lovely Maiden-hair was of no service outside the stove fernery and much of its beauty was lost, as it is only when well exposed to the light that the young fronds have that lovely rosy pink hue. Even when well exposed they soon lose the colour if we get dull, damp weather. Another advantage in growing it fully exposed to the light is that the fronds will last fairly well when cut, and plants may also be used for decoration except in very exposed positions. Since many other Ferns have become so common, florists have had to look for something fresh, and A. Farleyense has come to the front, being now used extensively by our London florists.

Although it may frequently be met with growing luxuriantly and appearing to give but little trouble, there are many who fail to hit on the right method of treatment. I find that when plants do get into a weak, sickly state it takes a long time to get them to make a good start again, but once get them into a healthy state, with genial surroundings there is little difficulty in keeping them so. Like most other Ferns, it deteriorates with age. Plants grown on from single crowns make the finest fronds. As no fertile fronds are ever produced, it has to be propagated by division. I find it best to divide young plants. If done before the pots get too full of roots, they will soon start away again; but where only old plants are to

be had they may be broken up so as to secure some good roots with each division, and then be divided again after they have made a fresh start, or some of the crowns may be taken off and all the fronds cut away. If put into Sphagnum Moss, peat and sand in equal parts and kept close, giving them similar treatment to young seedlings, they will start away and may be potted singly after they have made a few fronds. By this method it takes some time to establish useful sized plants. I therefore prefer to divide young healthy plants. The compost for potting should consist of good fibrous loam, some horse manure which has been well dried, cleansed from worms and other insects, some sand, or if the loam is heavy and not much fibre in it, a little good peat may be added, but it is quite unnecessary to use peat if the loam is good. Care should be taken that the compost is neither too wet nor too dry when used for potting. Good drainage should be given, and in potting, the plants should be kept

healthy where the temperature has often fallen much below 50° in winter. It is not so much heat that is required as a regular temperature, and where it cannot be sustained it is better to keep the plants on the cool side than otherwise.

I may add that where large specimens are to be grown they should be potted on from time to time, taking care that it is done before they get too much pot-bound. A. HEAMSLEY.

KITCHEN GARDEN.

DWARF BEANS FOR SUCCESSION.

The past season has not been one of the best for dwarf Beans, the atmosphere having been too dry for the setting and swelling of the pods, even where mulching was practised and artificial watering resorted to. The earliest



Adiantum tenerum var. Farleyense. From a photograph sent by Mr. John Coward.

fairly well down, but not buried too deeply. The new soil may just cover the crowns, and should be pressed moderately firm. Few plants require more care in watering than A. Farleyense. Newly-potted plants, or those which have few fronds, will not require much, while healthy pieces with large fronds and the pots filled with roots will take more water than many plants. I believe that letting the plants get too dry is often the primary cause of their being unhealthy. It is easy to tell when a plant has been too dry, although no outward sign may be visible. On examination the under fronds will be found to be shrivelled up, and if these are left they cause shrivelling as soon as they get a little moisture on them, and this evil will extend to the young fronds that are just starting up. Weak liquid manure may be used after the pots are well filled with roots. A. Farleyense should never be grown under the shade of other plants or crowded. It may be stood up on inverted pots or suspended from the roof with plenty of room for the air to circulate round it. In a temperature of from 60° to 70° the plants will continue to grow throughout the winter. I have kept Farleyense

lots which were sown and brought forward under glass until 4 inches or 6 inches high and then planted out on warm, sunny borders, matured their crops before the drought set in, but those sown in April and May in the usual way feel the lack of moisture very much, the pods not swelling to their normal size and lacking quality, the plants also giving up before their usual time. There is, however, a great difference in varieties for withstanding a trying summer, as much difference in fact as there is in Peas. I think gardeners are indebted to Mr. Wythes for bringing so prominently to their notice the good qualities of that not too well-known variety—Mohawk, or Six Weeks, as it is sometimes called. This Bean is as good for early supplies out of doors as it is for forcing under glass. The pods, which are produced in great numbers, are of a pleasing colour and first-rate quality, as good in fact as most of the later larger podding sorts, which are generally supposed to surpass the shorter earlier varieties. Certainly all those who have not yet tried it for both purposes should do so another season. Another excellent sort for first sowing is Newington Wonder. This Bean,

which quickly became popular when first sent out a quarter of a century ago, seems now to have gone almost out of cultivation, the reason probably being the rage for novelties. Those who wish for quantity and quality combined should include Newington Wonder in their first sowings. Osborn's Forcing, although a capital Bean for early work under glass, is not, I think, equal to the two foregoing for outdoor purposes. For secondary sowings I still place Sion House in the front rank, for no better Bean can possibly be grown, and when quality is taken into consideration I do not think any other sort can touch it. It also stands a dry summer as well as any. A Bean I grew out of doors on a south border this year, and which I have before praised as a good successional forcing in an intermediate house, is Webb's Victoria. This I shall certainly grow another year, as it is excellent in every way, its dark green pods being very striking. When exhibiting I used to show this variety at June shows in preference to Canadian Wonder, the pale colour of the later sort telling against it; I have never been able to grow the much praised Ne Plus Ultra satisfactorily either in pots or in our light soil out of doors, and have now abandoned it; some gardeners, however, succeed very well with it. Another grand Bean for later crops, which, like Newington Wonder, has lately fallen into disrepute, but which, in my opinion, is quite equal to Canadian Wonder for cropping, whilst for colour it completely beats it, is Negro Long Pod. For hot, dry soils this is the variety to grow. As the season advances and sowings are made to finish up the season, the early dwarf sorts above mentioned had better be used.

J. CRAWFORD.

Exhibiting Tomatoes.—If "J. C.'s" advice (p. 243) was taken, and excellent it is, it would be impossible to show cracked fruit. How often does it happen that when judging, one comes across a few out of several, otherwise sound, that are past their best? I admit it is the business of judges to detect these defects, but how often does it happen that judging is obliged to be hurriedly done, exhibitors being allowed to stage long past the time, and it is impossible for the exhibits to be as carefully examined as one would wish. Under existing conditions exhibitors will continue the objectionable practice, as by so doing there is less fear of defects being seen. W. S. M.

Mammoth Cauliflowers.—I am not a lover of huge Cauliflowers, and find that they are not at all profitable at any season, as at that date few care for them, being overgrown and strongly flavoured. Doubtless for market it may be necessary to have vegetables large, but I fail to see their utility in private gardens. It may be urged that smaller types are less reliable, but such is not my experience. I find Eclipse, Magnum Bonum and Walcheren equally as reliable as the larger kinds, and for what may be termed autumn supplies we have splendid types in Michaelmas White Broccoli and the Autumn Self-protecting. These grown on rapidly and not sown too early in the spring are far superior in quality to the huge autumn Cauliflowers sown in heat and kept growing all the summer.—W. I. M.

Autumn Giant Cauliflowers.—Although vegetables generally have made great progress since the rain set in, none appear to have responded so freely as these autumn Cauliflowers, their growth, both in leaf and flower, has been very fine—that is, in the earlier batches. Later ones are coming on well. I have never had finer heads than I am cutting at the present time (September 30), and it only requires freedom from sharp frosts to give the desired succession. They will be particularly welcome now Beans and Peas are nearly over and Brussels Sprouts not yet ready. Eclipse sown about the same time and planted on

adjacent quarters does not show any advance in point of earliness. I am cutting fine heads of this at the same time as the Autumn Giant, but perhaps my stock is not true.—W. S. M.

Topping runner Beans.—Topping the runner Bean at a certain distance from the soil is not so much practised in private gardens as among market growers, but it has much to recommend it, as the crop is so good and the plants cover a less space, requiring but few stakes; indeed, large growers use none at all. I consider topping an excellent mode of culture for late supplies. By advising this method, I am aware I lay myself open to criticism, as some may say why not grow the dwarf variety and save topping. Many persons favour the runner because the crop is heavier and the pods do not age so quickly. In the climbing runner we have a grand Bean for the purpose named. This stopped at 2 feet from the soil crops splendidly and is most suitable for autumn supplies. By topping, the haulm is less exposed to early frosts and the plants are readily covered. The plants will repay the extra cost of a few short stakes to keep them erect, as then the pods are more readily gathered. Of course, the plants may be topped at a shorter distance than 2 feet, but I do not advise it.—W. S. M.

Tomatoes on ashes.—In a recent issue by "A. D." mention is made of Tomatoes being a success at Gunnersbury House grown in a bed of ashes by Mr. Hudson. I have grown a heavy crop in the same manner this season, only instead of the plants being in pots they were planted in boxes about 5 inches wide, and the same in depth. The boxes were filled with loam with a little horn soil added. The roots of the plants speedily found their way through the bottoms of the boxes and spread in all directions among the ashes, while the plants grew rapidly and bore heavily, many of the individual fruits attaining to a large size. The house is 40 feet long and 8 feet wide, and the boxes were placed close to the front wall on the ash bed and some 18 inches from the roof glass. The plants were trained on strings under the roof and confined to single stems. What support the plants found in the ashes I am unable to say, but they certainly looked as healthy as though liberal supplies of rich soil had been placed within reach of the roots, and no one could have wished for better results as regards crop. The above Tomatoes had manure water during the growing season. The manure I prefer for Tomatoes is Peruvian Guano, used in the proportion of 2 oz. to each gallon of water.—A. W.

Notes on Beet.—In the interesting notes on this subject contributed by Messrs. Wythes and Crawford mention is made by both writers of the Cheltenham Green-top variety. As I grow this variety somewhat extensively I agree with all Mr. Wythes has to say in its favour. I have grown this kind for some years past, having discarded all others with the exception of Dickson's Reliance in favour of it. This Cheltenham variety is similar in appearance to Cheltenham Green-top, and the roots exhibit but little difference in form, and are equally as well flavoured when cooked. Cheltenham Green-top, however, sown this season on a friable piece of ground, well worked during the winter, and which was well manured in the spring of last year. Although the summer has been so hot and dry the roots will be quite large enough by lifting time. I always store Beetroot in clamps under trees in an out-of-the-way part of the garden, and the roots invariably keep well in this cool position. I used to grow a Beet named Fribish's Excelsior. In shape it was more like a Carrot than a Beet, and although of fine colour when cooked it did not find many admirers on account of the slices being so small when cut up. I had to discard it on this account, but all the same it was an exceptionally fine flavoured variety. I quite agree with both Messrs. Wythes and Crawford as to the Egyptian Turnip-rooted Beet being of poor quality. If sown on poor ground it is not worth cooking, and on rich ground in the generality of seasons it comes too coarse and large. These Turnip-rooted Beets are

useful for filling up the gap after the winter stored roots are past their best.—A. W.

Late Potatoes.—The getting up of late Potatoes where that work previously has been difficult is giving much trouble owing to the rain. Very recently I was engaged in getting up late stocks from stiff soil left over from day to day in the hope that the weather would improve, and then found after one half the work was completed the plot drenched with a cold heavy downpour of rain. There was no leaving the work, which had, in spite of the mud, to be completed. I have the tubers fairly dry now, but the soil is encrusted on them and will be difficult to remove. It is, when tubers are in such condition, very difficult to discern what disease may be in them. No doubt the longer they remain in the wet soil the worse their condition, but at least it enables the good to be selected from the bad. The best course in getting up now where the tubers are dirty is to throw them into heaps of a few bushels, cover with mats or straw, and allow them to remain for a week or two, unless their state should demand occasional turning and thinning. There is no late Potatoes this season much of rotten disease. It is the knowledge that scarcely any stock of late Potatoes is entirely free from this defect that checks sale and causes buyers to be very cautious. After being stored for a few weeks, however, all really diseased tubers should be fairly discernible and those may be picked out and thrown away. Where soils are light and loose or sandy it has been easy enough to get up the late stocks in fairly clean as well as in sound condition.—A. D.

Manuring Asparagus beds in autumn.—I recently saw large bodies of decayed manure wheeled out to place on the surface of some newly-planted Asparagus beds, which, owing to drought, had made a weak growth. It had been planted in April, and what little growth was made had ripened early. Old customs are difficult to break through, and a few moments' reflection would convince anyone that heaping up large masses of manure which remains in a wet, stagnant condition all the winter will act the reverse of what was intended, as what few roots young plants make will perish, the constant wet preventing sun or wind drying the surface. In the case of old beds, no manure is required at this season; indeed, I do not advise it in any shape or in any kind of soils, as the more one feels after the cutting comes in June so much the better. I have seen it stated that food may be given light soils in autumn, but I fail to see what good it will do. As regards irrigation, I am a strong advocate for water. I once had an opportunity of seeing the effects of such irrigation from a sewage farm on a field of Asparagus. The growth was remarkable. If we could mulch our beds in June and apply sufficient water the new growths have something to support them, and as is well known the plant requires no protection, so that there is no excuse for covering now; far better leave alone and feed during growth. Last summer I found peat moss litter of great service as a mulch on a light sandy soil. This retained the moisture and the roots soon laid hold of it. A good fertiliser was used before applying the water if liquid manure was not available.—G. W. S.

Course Brussels Sprouts.—At p. 213 "A. D." and others note the growth of this vegetable, the former also lamenting the grossness owing to too much manure and deep cultivation. "W. S." notes that his plants do not come up to those of "J. C." referred to at p. 184. Possibly he planted out later; mine are as described by "J. C." as regards free growth, but not rank or gross, as I take care to plant only the dwarf kinds, but even then am not safe, as some of the stocks have become so much mixed that there is a certain percentage of large kinds not nearly so good as one would desire. Growers who sowed too early are in anything in a better position than those who sowed in the open ground and planted out in May, as these latter have certainly dwarfer plants, but somewhat stunted by drought and attacks of fly. I would not advise late sowing to cure the evil; indeed,

late sowing in such seasons is equally injurious. I would certainly advise "J. C.'s" method of sowing in a cold frame and planting out on hard land. This I have followed in rich light ground with much success, and got quantities of sprouts with less grossness than if allowed a deep or rich root-run. Requiring large quantities of Brussels Sprouts, I have always grown them as hardy as possible. Not only with sprouts, but other green vegetables, mere size is to be condemned and should not be fostered in any way. With plants raised in heat and given such rich soil there must be grossness at this season, with losses later on if the winter is severe. I recently noticed some huge Savoys with heads bursting, and of course useless. Here it was the fault of early sowing; soil so alters the growth of vegetable that in all cases it is necessary to study the seasons. I think Savoys in September useless, being strong and of course much inferior to Coleworts; on the other hand, to get Brussels Sprouts in quantity it is necessary to get strong plants.

—S. H.

ORCHIDS.

PLEIONES.

THOUGH not large-growing plants, the Pleiones, or Indian Crocuses, are among the brightest of autumn and winter-flowering Orchids, and a few masses tastefully associated with Maiden-hair or other small Ferns are very nice for many kinds of indoor decorations. They require this dressing of green as a relief to the bright mass of colour, for at the time of flowering the plants have no leaves. Their culture is not difficult and depends entirely upon careful attention to details at the proper season, the principal points being noted below. Most of the species are natives of the higher mountainous regions in India, and consequently require less heat than other Orchids from the same country that grow in the moist, hot valleys. Pleiones will thrive in company with Odontoglossum grande, but the cool house proper is not quite suitable to them, and if no intermediate temperature can be afforded, they will be better in the coolest part of the Cattleya house. In this case the growth will be very free, but care will be necessary to keep them in their proper season. All the species are most satisfactory when reported annually, the best time to do this being immediately the flowers are past; this of course prevents all being potted at once, but the little extra trouble is well repaid. In shaking the pseudo-bulbs out of the old compost, the last season's roots will be found quite dead as a rule, and of course of no further use to the plant. If cut off about an inch from the base of the bulbs they will help to steady them in the new compost, and to a certain extent may protect the young roots that will in some cases be starting from the new shoots. Many grow Pleiones in large flat pans, but I consider they look much prettier four or five bulbs together in small pots, and in no case plant more than eight. In either case the treatment is the same. The pots or pans should be filled two-thirds of their depth with clean crocks, using very small ones on the top, as owing to the nature of the compost it is very apt to get silted down to the drainage unless this is in very good order. Good fibrous loam, peat and finely chopped Sphagnum Moss will make a good compost, adding plenty of finely broken charcoal and crocks. Cover the drainage with some rough Moss and plant the bulbs evenly about 2 inches apart, allowing a slight rise to the centre, as this shows the blossoms to better advantage. Fix the bulbs firmly, and make a neat finish of the soil by clipping off any ragged ends or pushing them in with the dibber. The

state of the young roots must be kept in mind in watering afterwards. If these were showing when the pseudo-bulbs were divided, a little water must be given a day or two after repotting, but if roots had not started to grow they will be better without any water for a week or ten days at least. Slight dewings from the syringe may be allowed, as these keep the surroundings moist and prevent undue evaporation. But if the plants are healthy, it will not be long before plentiful supplies will be needed at the roots, for when these begin to run in the compost and the leaves to unfold, Pleiones are almost aquatic in their requirements. Though liking a good light, the sun must not be allowed to shine on the foliage, as this at first is very tender, and shade must be allowed them, and the foliage kept free of insects all through the growing season. When the leaves begin to turn colour, usually in late summer, reduce the supply of moisture at the roots considerably, but by degrees, as it is important that the pseudo-bulbs get sufficient to swell up to their full size. When all the leaves have fallen the plants may be kept perfectly dry, and for preference placed in a sunny frame or on a shelf near the glass, the new pseudo-bulbs by this means getting thoroughly hardened and ripe. After a few weeks' rest, the young shoots containing the flower and next season's embryo growth will appear, and the plants may again be placed in the growing quarters. It is not much use watering the roots, as these have by this time completed their work, but a little moisture about the plants helps them, though there may not be actual absorption. It is easy to do too much on the other hand, and this is worse than giving none at all, but by the time the blossoms are showing there will, as a general rule, be a few young roots. All the Pleiones resemble Cologenes very closely in structure, and by modern botanists are included in the genus, but the habit and manner of blooming are so totally distinct that the older name still obtains for garden purposes. The species named below are the most generally grown, though several others are included in the genus.

PLEIONE HUMILIS is a fine and prettily marked species flowering in early spring. The growth is distinct from that of most of the other kinds, the pseudo-bulbs being a bright yet deep green. The flowers are borne singly on the scapes and are each upwards of 3½ inches across, the sepals and petals spreading, narrow, and varying in colour from pure white to light rose. The lip is very beautiful and has a tubular base, the front portion widely open, blushed pale rose, veined with brownish crimson and yellow. It is found growing naturally at an altitude of nearly 8000 feet in Nepal, and was introduced in 1850. There are one or two named varieties of this plant differing from the type principally in the disposition of colour about the lip.

P. LAGENIFERA is one of the most useful of all, and also the most generally grown. It is now in bloom, and where a fairly good stock of plants is grown a display may be kept up for several weeks by bringing them on in slightly different temperatures. It has brownish green pseudo-bulbs and flower-spikes carrying one or two blossoms. These are of fine form and very bright in appearance, the ground colour of the petals and sepals being light rose purple. The lip is white, ornamented with many yellow wavy crimson blotches; the throat yellow with raised lines of crimson-purple. A native of the Himalayas.

P. MACULATA closely follows the last named in its flowering season and is a distinct and very easily grown species, thriving in the Cattleya house. The flowers occur usually on single-flowered scapes, and the sepals and petals are white and have a distinctly frosted appearance when first open. The lip is also white in ground

colour, lined and spotted with crimson, yellow, and purple, though in the variety *alba* it has only a yellow blotch in the throat, and no trace of any other colour. Introduced by Messrs. Veitch and Son from the Khasia Hills in 1850.

P. WALLACEI is a useful winter-flowering species with large handsome flowers. These are of a dark rose purple on the sepals and petals, the lip being lighter and lined with white in front, a broad stain of deep crimson in the throat and a yellow centre. This is also known as *P. macroz*, and was introduced in 1846 from the Khasa Hills.

Ocicidium tigrinum.—This I have seen flowering finely in several collections this week, the bright yellow fragrant blossoms being favourite everywhere. It is a capital plant for amateurs, thriving well in the cool house in pots. The flowers last a very long time, and being large and borne a good many on the spike, are a great strain on the plants. Wherever it is thought the plants are not strong enough to stand the strain the flowers should be removed and placed in water.—R.

Cypripedium Spicerianum.—What an easily cultivated as well as most useful variety this is, thriving well in a cool house along with the old *Cypripedium insigne*, and coming into flower at a period when Orchids are none too plentiful. It, moreover, lasts in good condition for a long period, and makes a brave show when associated with the last named and Calanthes. Even very small plants in 4½-inch pot are sending up half a dozen blooms. An intermediate house should be given if the plants are wanted to flower in September; indeed, I think that temperature really suits it best.—J. C.

Grammatophyllum Ellisii.—The blossoms of this Orchid last a long time in good condition and are produced on large showy racemes. Each one is about 3 inches across, the sepals and smaller petals being yellow, marked with reddish brown. The culture of this plant is not so easy as may be wished, and it dislikes being pulled about at the roots. A rough open compost suits it best and the pots must be fairly large, as it is a free-rooting species when in good health. Plenty of heat while growing and a brisk, moist atmosphere, with plenty of water at the roots must be given. During the resting season the water supply must be greatly diminished, a drier atmosphere also tending to keep the growth dormant.

Zygopetalum Gautieri.—This is one of the most striking Orchids now in bloom, and one that varies a good deal in the colour of its flowers. The sepals and petals are olive-green, blotched with chocolate-brown, and the lip is purple blue in front, the crest a deep blackish purple. It does well in a shaded position, and is a larger flower in bloom and bears finer blossoms than *Z. maxillaris*, which otherwise it much resembles. It may be grown in a basket or on blocks of Tree Fern making the natural roughness of the latter material making a capital holding for the roots, which must be kept moist summer and winter. Z. Gautieri is a native of Brazil and was introduced in 1868.

Miltonia Clowesi.—This is rather a variable species as regards size, and one of the best forms I have seen was in an amateur's small collection near Bradford recently. In this the blossoms had very broad segments and a finely marked lip, the washy purple tint pervading the whole of some of the varieties giving place to a pure white specie, the base a pretty deep purple. The roots of M. Clowesi are rather small, but grow very closely together, and they like a rather finer compost than usual. The growth goes on late in the season, and in consequence the moisture must be ample during autumn and early winter. At no time in the year in fact must the plant be dried, enough water always being given to keep the roots moist and prevent shrivelling of the bulbs or foliage.—R.

Cypripedium Henry Graves.—This is a really grand Cypripedium, a secondary hybrid, raised in America by Messrs. Pitcher and Manda,

and first flowered by Mr. H. Graves, after whom it was named. It is the result of crossing C. Marshallianum and C. Lawrenceanum, the former being hybrid as the seed-bearing parent. The plant was exhibited before the Royal Horticultural Society in January, 1895. The growth is robust and healthy, and as showing the vigour of the plant, it is now producing twin-flowered scapes. The blossoms are large and very distinct. The dorsal sepal is white, with a suffusion of delicate rose pink that shades off to green at the base. The petals are broad and well formed, darker in ground colour than the sepals, and having many spots and small blotches of brownish purple. The pouch is a light greenish yellow, and on the upper portion there is a suffusion of deep purple-rose. The throat is profusely spotted, and over all there is a network of green and purple veins, showing its relationship through two generations to *C. venustum*. It is a truly handsome plant, and a great acquisition to this already numerous family.

SOCIETIES] AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

We are requested to state, in reference to the great jubilee exhibition which opens at the Royal Aquarium on Tuesday, November 3, with a second competition on Thursday, November 5, that all entries for either show must be sent in to the secretary, Mr. R. Dean, Ranleigh Road, Ealing, by Friday, October 30, to enable the large amount of clerical work to be got through in time. Everything must be staged ready for the judges by 10.30 a.m. on the mornings of November 3 and November 5. All plants shown on November 3, with the exception of the trained specimens in classes 2 and 3, all fruit and vegetables, also all miscellaneous exhibits, must remain until the evening of Friday, November 6. Cut flowers and table decorations can be removed at 10.30 p.m. on the evening of Wednesday, November 4. Strips for exhibiting for the first time must be informed that cards for naming cut flowers, and pins for securing, fastening the same to the stands, can be had at the flower show office in the Royal Aquarium on the morning of each show. The tables and other parts of the building will be roped off while the judges are making their awards, and only those privileged to be present while the judging is proceeding can be admitted within the enclosure. Exhibitors are requested to make themselves thoroughly acquainted with the "regulations for exhibitors," on pages 55 and 56 of the schedule of prizes.

The jubilee banquet will take place in the Whitehall Rooms of the Hotel Metropole at 6.30 on the evening of November 3, Sir Edwin Saunders, the president, in the chair. Tickets one guinea each, which can be had at the secretaries.

On Thursday, November 5, the exhibition will be largely renewed, as competition will take place in thirty-four additional classes, and immediately the awards are made—both of November 3 and November 5—catalogues of the exhibits will be issued with the names of the prize-winners. These will be on sale in the building.

At 7 p.m. on the evening of November 5 a conference meeting will take place in the library, Mr. T. W. Lee in the chair, when papers will be read by Mr. George Gordon on "The types of the Chrysanthemum and their characteristics with suggestions as to the adoption of a fuller classification;" by Mr. Norman Davy on "The points of quality, or properties of the various types as exhibition flowers, and the values to be apportioned to each;" and by Mr. C. E. Shea on "Setting up blooms for exhibition, and the principles upon which an effective arrangement of a stand is based."

The secretary of the National Chrysanthemum Society offers admission tickets at a considerable reduction in price to parties of not less than twelve persons, members of affiliated societies, and the

main lines of railway are affording special facilities for reaching London.

The Chrysanthemum Society of America desire to offer a special prize of gold medal to the National Chrysanthemum Society, to be competed for at the forthcoming jubilee meeting. In the event of its acceptance on Monday evening next by the general committee of the N.C.S., this American gold medal (which is of the value of £5) is to be awarded to the best twelve commercial blooms—one variety, from any source—to be considered from an American point of view, viz., exhibited in a vase (to be provided by the exhibitor) with not less than 18 inches of stem, of a pleasing, saleable colour, size and substance also to be taken into account. Further particulars can be obtained of Mr. R. Dean, the hon. sec., N.C.S.

The special prizes offered by the trustees of the Veitch Memorial Fund on November 3—viz., Nos. 19 and 20 on page 66 of the schedule of prizes, and which are stated in error to be "open"—can be competed for only by amateurs and *bond fide* gardeners; an amateur being defined as including any person not engaged in trade as a dealer in plants or seeds. The Turner Memorial cup and prizes—which by an oversight are stated to be open to competition by nurserymen only—are open to all comers.

A meeting of the floral committee was held on Wednesday, October 21, at the Royal Aquarium, Mr. T. Bevan presiding. The attendance of members was good, and some very attractive exhibits were shown by M. Ernest Calvat, Mr. H. J. Barnes, Mr. W. J. Godfrey, Mr. W. Wells and others.

First-class certificates were awarded to the under-mentioned varieties:—

PRIDE OF EXMOORTH.—A very large Japanese flower, with long drooping florets, rather narrow and twisted. This was shown by Mr. W. J. Godfrey.

RENA DUL.—An incurved of medium size and fairly good build. The colour is silvery white, flushed and tinted rose mauve, paling off to pure white in the centre. Staged by Mr. T. S. Ware.

M. HOSTE.—A large, coarse-looking Japanese with rather broad florets, colour white, shaded and streaked with purple. Exhibited by Mr. W. J. Godfrey.

PRIDE OF MADFORD.—A truly grand exhibition Japanese incurved with very broad grooved florets; a solid, massive-looking flower. Colour rich velvety rose amaranth with a reverse of silvery pink. One of the Australian seedlings. From Mr. W. Wells.

The committee expressed a wish to see again Marjory Kinder, a large yellow Japanese, and Nelson, a Japanese incurved sport from Mine Ed. Rey, of a golden-bronze shade. A commendation was bestowed upon Antoinette, a new white Japanese of recent introduction. Other promising novelties were Etiole Polaire, rose amaranth; M. G. Birn, crimson; Miss Muriel Goeschen, yellow; Vicar of Exmouth, velvety purple-amaranth; Warrior, and Frank Ashman, all belonging to the Japanese section.

Gardeners' Royal Benevolent Institution.—The executive of the Sandringham Horticultural Society have forwarded a donation of £5 5s. in aid of the funds of this charity.

The Royal Horticultural Society.—The next great annual meeting of the Royal Horticultural Society will be held on Tuesday, October 27, in the Drill Hall, James Street, Westminster, 1 to 4 p.m. A paper on "Chrysanthemums," by Mr. W. H. Lees, will be read at 3 o'clock.

The Crystal Palace Fruit Show.—It is quite a pleasure to record a very great improvement in the arrangement of the exhibits at the recent show over that which took place last year, and which came in for so much adverse comment. This year it was possible to follow the schedule class for class, and this made things much easier for the ordinary visitor, the exhibitor and the representatives of the press. There was a slight

falling off in the number of exhibits and in the general quality throughout the show, but this is easily accounted for by the season, which began with a long dry, trying drought, and ended with a long-continued dull and wet weather, and was in no wise caused by lack of interest. Plums, Peaches, Nectarines, &c., were scarce, the season for these fruits being over; but I do not think that this would justify the holding of the show at an earlier date another year, as the date is most suitable for exhibiting Apples and Pears, and October Peaches and the like are not generally so rare as they were this year. Cannot the R.H.S. be induced to increase the number of classes for single dishes of Apples? Those varieties selected for the schedule by no means exhausted the list of good standard varieties, and the generally expressed idea is, that in giving numerous prizes for single dishes, societies appeal to a much larger constituency than they do in the classes for collections, and it is certain that the single dishes, taken all round, usually contain the best fruits. It was a matter for some surprise that well-known and universally-liked varieties had to give way to others that were newer and very little known. This sort of thing is admirable in the case only of a fruit which is destined by its superior qualities to become a popular kind; but, as a means of pushing a new variety of doubtful merit, it should be looked at in a different light by all interested in the well-doing of the society.—CORNUBIAN.

NOTES OF THE WEEK.

Aster cordifolius.—This is one of the most profusely flowered of the Michaelmas Daisies, the habit very light and graceful, and the soft mauve shade very pleasing and delicate. It is about 2½ feet high.

Aster sagittifolius.—This is a neat-growing form of Michaelmas Daisy, of erect habit and pleasing, owing to its delicate blue flowers. It is not generally seen in collections, but at Kew recently we saw it in capital form.

Polygonum affine.—At the present time, when flowering plants in the rock garden are rare, the broad patches of leaves of this plant are very effective. Any plant that performs a twofold purpose in this way should be noted now and utilised in the future.

Eriogonum mucronatum.—This is still very pretty in the rock garden, the numerous Daisy-like flowers expanding freely even at this late date. On warm sunny exposures the plants are quite gay with blossom, although they have yielded flowers for weeks past.

Aster puniceus pulchellus.—A very distinct form, though bearing of flowers somewhat ragged in appearance. Notwithstanding this it is effective, and by reason of its distinctness and vigour, should find a place in collections of these flowers. The individual blooms are white, with a suffusion of lilac.

Dahlia Zimapani.—A handful of blossoms of this beautiful annual Dahlia in Messrs. Barr's stand at Westminster last week was very showy, the deep crimson-shaded flowers, each about 1½ inches across on slender, wiry stems, being well suited to mingle with things of lighter hue in vases or the like.

Aconitum autumnale.—This is a bold and satisfactory border plant for late autumn work, and good established clumps of it in the border just now are exceedingly effective. The plant when fully grown is nearly 4 feet high, and its compact heads of deep blue flowers are quite an exception at this date.

Aster linosyris (Goldilocks).—A pretty and interesting plant, more generally known as Chrysoma, growing about 2 feet high, the stems furnished with narrow leaves and terminated by small heads of golden flowers. Its dwarf, compact, as well as distinct habit makes it a pleasing plant in late autumn.

Poinsettias.—A fine batch of these valuable midwinter flowers was noted recently at Syon

House, where Mr. Wythes devotes a large house to the plants. At Syon these plants are grown by the hundred, and their perfect condition is the best proof of good treatment. A little later these Poinsettias will be of the greatest value.

Amasonia punicea.—Flowering examples of this very charming and effective plant were exhibited by the Messrs. Veitch and Sons lately at Westminster. The creamy yellow blossoms, with slightly recurving corolla, were in distinct contrast to the brilliant crimson-brown of the bracts, the colour extending to the tips of the branches.

Violet Princess of Wales.—From Messrs. Cannell and Sons, Swanley, Kent, come some fine flowers of this single Violet. The blooms are large, rich blue in colour and very sweetly scented. They were gathered, we understand, from the open ground. This variety should have a place among the many good things we now have.

Aster Novi-Belgii densus.—Among the dwarfer and more compact-growing forms this is a most useful kind. The shade of blue as seen in the dense heads of bloom is also very good, and at Kew, where large masses some 8 feet across represent this kind, it makes a fine display. In height it is barely 3 feet, and therefore serviceable in many ways.

Bouvardia Bridal Wreath.—Among many varieties of Bouvardias in [No. 4 greenhouse at Kew are some capital plants of the above, producing in welcome profusion their useful and chaste blossoms. The large-growing kind, B. corymbiflora Humboldtii, which forms quite a large bush and is especially useful for early autumn work, is also largely grown.

Kniphofia Henrich Henchel.—As seen in a large bed of Flame Flowers at Kew on the grass, this variety carries a great profusion of spikes that continue quite late in the season, and being of naturally bold, vigorous habit and brilliant colour, is very useful. Another variety named Chloris, a form of aloides, with almost clear yellow flowers, was also very distinct and pleasing.

Astrantia major.—Among many things that were interesting in Messrs. Barr's exhibit at the Drill Hall last week, a bunch of this plant was noticed. The flower heads are pinkish white. The foliage when fully developed is handsome and effective, and for this reason the plant is worth growing. There is a variegated form of this species that makes a splendid pot plant.

Salvia splendens grandiflora.—This magnificent variety was lately seen in a finely-grown specimen at the Drill Hall from Sir Trevor Lawrence. The spikes of flowers are of the brightest vermillion, the individual blossoms arranged in a rather full, dense spike nearly 8 inches long, and the flowers being well retained throughout this entire length have a vivid and striking appearance.

Lobelia Gerardi.—This is said to be a hybrid having for its parents L. syphilitica crossed with L. cardinalis variety. In the bunch of flowering spikes exhibited by Sir Trevor Lawrence (gardener, Mr. Bain) at the Drill Hall last week it was not possible to trace the effect of the latter parent in the least, while L. syphilitica was abundantly apparent in foliage, flower, and growth generally.

Phygelius capensis.—Among late flowering autumn perennials this distinct plant is always of value on account of the brilliant spikes of bloom produced at this season of the year. Though this plant is not seen so often as one would expect, it is easily grown in good sandy loam, fairly deep, with good drainage. On very dry soils it is better in a slightly shaded spot, though not to an extent calculated to delay its flowering, which is always naturally late.

Plumbago capensis.—Quite recently at Kew we noticed a very pleasing result from the use of the blue and white forms of the above. The main growths were trained to the rafters and then allowed to hang down in a natural way. The chaste blossoms were thus seen to decided advantage. Quite the reverse is the case when plants of such beautiful and pleasing growth are

tied down to balloon trellises or the like, for rarely is there any beauty in such.

Aster Novae - Angliae pulchellus.—We were very much pleased recently to note the fine effect created by a large group of this distinct Michaelmas Daisy quite high up on a railway embankment. The latter inclines at an angle of 45° or more and is about 18 feet deep, the Aster being planted a few feet from the top. With no staking or tying of any kind the plants drooped towards the platform, displaying the numerous rosy heads of blossom to advantage.

PUBLIC GARDENS.

Courty Council Chrysanthemum exhibitions.—The Chrysanthemum exhibitions at Battersea, Finsbury, Victoria, Southwark and Waterloo Parks are now open to the public.

New park for Salford.—Sir Percival Woodward has presented Salford with a new park, and has also conveyed to the corporation, as a gift, a plot of land adjoining as a site for a free library.

The lake in Battersea Park.—Hitherto the water for this has been taken from the Thames. It is satisfactory to hear that the Parks Committee have been making a boring with the view of getting a supply of pure water for the lake.

A new conservatory.—Stocked with Palms, valued at £10,000, and supposed to be the finest in the country, has just been erected in Sefton Park, Liverpool, by Mr. Henry Yates Thompson, and presented to the Lord Mayor of Liverpool as representing the citizens.

New park for Glasgow.—Glasgow is to have a new park, the town council having agreed to acquire a portion of the Tollcross estate, in the east end of the city, comprising a little over 82 acres. The purchase-money agreed upon is £350 an acre, or about £29,000.

New recreation ground.—The Parks and Open Spaces Committee recommended that the council should agree to the acquisition of certain land consisting of 3 rods 12*f* perches of a disused burial ground belonging to the governors of Guy's Hospital at Nelson Street, Bermondsey, at the price of £4000, and should maintain the ground, when acquired, conditionally upon the Vestry of Bermondsey and certain other public bodies contributing the sum of £2300 towards the purchase money, and to the laying-out works being carried out at the expense of the Metropolitan Public Gardens Association. The recommendation was, after a short discussion, adopted.

Metropolitan Public Gardens Association.—At the monthly meeting of this association, held at 83, Lancaster Gate, W., General Lowry presiding, it was announced that the Whitechapel District Board of Works had made a grant of £100 towards the expenses of the association in maintaining the Tower Gardens and Spitalfields Churchyard, and that in response to its appeal, Mr. James Bailey, M.P., had provided the association with £375 to complete the purchase of some vacant land in East Street, Walworth, towards which the London County Council and the Newington Vestry have also jointly subscribed £5000. It was stated that the purchase of the Home Field, Chiswick, 10 acres in extent, which at the request of the association the Ecclesiastical Commissioners had offered as a public playing field, at a greatly reduced price, had been agreed to by the district council, and that the churchyards of St. Dunstan-in-the-East had been opened to the public by Lord and Lady Toynbee. Satisfactory progress was reported with regard to securing the churchyard of St. James', Pentonville, St. Matthew's, Bethnal Green, and a disused burial ground in Nelson Street, S.E., for conversion into public gardens, and it was hoped that the association would soon be in a position to commence the work of laying out these grounds. It was decided to undertake

the laying out of St. Giles's Churchyard, Camberwell, at an estimated cost of £800, provided the ground was transferred to the local authority for maintenance under the Open Spaces Acts. Grants of seats were made for sites at Canning Town and East Ham. Among other matters under consideration were schemes for the conversion of a disused burial ground at Wandsworth and a churchyard in Battersea into public gardens, and for the acquisition of vacant sites at Willesden, Nunhead, and in the City Road, E.C.

OBITUARY.

MR. HENRY TRIMEN, F.R.S., F.L.S.

We regret to announce the death of this eminent botanist, which took place at his residence in Ceylon on 26th Oct. 1896. Born in London in 1843 he was educated at King's College, and graduated B.A. at the University of London in 1865. He held the position of curator at the Anatomical Museum of King's College, and lecturer on botany at St. Mary's Hospital Medical School, and was senior assistant of the botanical department of the British Museum for ten years. In 1880 he was appointed Director of the Botanic Gardens, Ceylon, which post he had quite recently resigned. He was the editor of the *Journal of Botany* from 1872 to 1879, the author of the "Flora of Middlesex," in conjunction with Professor Thelston Dyer, "Systematic Catalogue of the Plants of Ceylon," and also a "Handbook of the Flora of Ceylon," besides many other papers. He introduced into cultivation in Ceylon many useful and valuable products of other countries.

Prunus sanguinalis macrocarpa.—The plate of this which appeared in our last issue was drawn from flowers sent by Mrs. Robt. Liphook, Hants, and not in the Royal Gardens, Kew, as stated in the legend.

The weather in West Herts.—Since the 10th inst. there has not been a single unseasonably warm day but and two warm nights. On the coldest day the temperature in shade at no time rose above 44°, and during the previous night the exposed thermometer registered 7° of frost. The ground is now cold for the time of year, the temperature at 2 feet deep being 3°, and at one foot deep 4° colder than their respective averages for October. There have been as yet only four days without rain this month, but on only one day has the rainfall exceeded half an inch. The total fall amounts to rather more than 3 inches, which is about the mean fall for the whole of October. On several days during the past week the atmosphere has remained exceptionally damp. There has again been but little sunshine, the average record being only two hours a day, while on four days the sun shone for less than an hour. All the Dahlias in my garden were so crippled by frost on the night preceding the 19th, that there is little chance of their yielding any more flowers this year.—E. M., Berkhamsted.

Names of plants.—*Thomsonia Brid.*—1, Glou. Merseyan; 2, Beurrs Diel.; 3, Emic. d'Heyst; 4, protular Easter Bells; 5, Duchesne d'Angouleme; 6, Marie Benoist; 7, J. A. Grey;—*Fear Fondante d'Automne*;—*Hubbard.*—Apples: 1, Warner's King; 2, not recognised; 3, New Haworthian; 4, Alfriston; 5, Pearson's Plate; 6, Peasegood's Nonpareil; 7, Yorkshire Beauty; 8, Smart's Prince Arthur; 9, Balmoral; 10, Cox's Orange Pippin; 11, Russet; 12, Cox; Apples: 2, Dutch Mignonne; 3, Tibbett's Pearmain; 4, Alfriston; 5, Frans's Pippin; 6, Northern Greening; 7, Kelstoke Pippin.

Names of fruit.—*Taylor.*—1, Glou. Merseyan; 2, Beurrs Diel.; 3, Emic. d'Heyst; 4, protular Easter Bells; 5, Duchesne d'Angouleme; 6, Marie Benoist; 7, J. A. Grey;—*Fear Fondante d'Automne*;—*Hubbard.*—Apples: 1, Warner's King; 2, not recognised; 3, New Haworthian; 4, Alfriston; 5, Pearson's Plate; 6, Peasegood's Nonpareil; 7, Yorkshire Beauty; 8, Smart's Prince Arthur; 9, Balmoral; 10, Cox's Orange Pippin; 11, Russet; 12, Cox; Apples: 2, Dutch Mignonne; 3, Tibbett's Pearmain; 4, Alfriston; 5, Frans's Pippin; 6, Northern Greening; 7, Kelstoke Pippin.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF is NATURE."—Shakespeare.

STOVE AND GREENHOUSE.

WINTER-FLOWERING PLANTS.

The demand for cut flowers in variety and in quantity at all seasons of the year has led to the largely increased cultivation of those soft-wooded plants other than Chrysanthemums that give a supply of flowers from the time flowers are nearly over out of doors, say from the end of September until Christmas, and there are few gardens now in which one or more houses are not devoted to them. In many cases one has to put up with existing houses and make the best of them. Ideal structures for the purpose are span-roofed, with pathway in centre and stages on either side fairly well up to the glass, with plenty of means of ventilation and sufficient piping to keep the thermometer up to 55°. In a season like the present, with the autumn rainfall much above the average, a little heat, accompanied by a crack of air both top and front, is advisable. A dry atmosphere is absolutely necessary, or many of the flowers will damp. If we had to rely on only one species for this work, the choice would probably fall on zonal Pelargoniums, and they seem to increase in favour for the purpose proportionately as they decline for summer bedding. Simply for a bright display the best singles still hold their own, but for this, combined with endurance both on the plant and in a cut state, preference should be given to the doubles. Free-flowering varieties of dwarf, compact habit should be selected. Cultural details are of the simplest, viz., to put in good cuttings early in the season singly in small pots, to pot on when required, using about 6-inch pots for the final shift, and as a compost nearly all loam, to give close attention to the watering during hot, dry weather, and to keep all flowers pinched off until towards the end of August. Bouvardias come very closely after Pelargoniums as useful winter-flowering plants, being specially in request for button-holes, sprays, &c. In common with many other things, they can, if labour is scarce, be planted out about the beginning of June and lifted before the advent of frost. Personally, having to deal with rather a dry soil, I plant them in shallow trenches in a part of the garden where they are least likely to be affected by prolonged drought, and mulch heavily. A batch of Eupatoriums is put out at the same time and in the same way; the fine heads of white flowers contrast very effectively with scarlet and pink Pelargoniums and scarlet Salviæ. The latter rank among the best of autumn and early winter plants, and good batches of splendens, Bruanti and Heeri are just now showing to great advantage in association with Chrysanthemums Mine, Desgrange and G. Wernig. Fine stufcan be obtained by the planting-out system if the plants are carefully lifted and receive a little extra attention until they are well established in the pots. A touch of blue is furnished by the aid of *Lasiandra macrantha* and *Browallia speciosa*. I do not know if these are amenable to the planting-out system, having always grown them in pots in company with the Pelargoniums and winter-flowering Begonias. A word of praise must be added for *Lobelia perennis*, one of the freest and most enduring of all. It has just started into flower and will keep on till well after Christmas. If

kept in small pots it forms an admirable front-plant in connection with Primulas, Cyclamen and things of similar height.

Clarendon.

E. BURRELL.

Asparagus plumosus.—We recently noted this plant in a Thames-side garden employed to screen a wall in a lean-to greenhouse, and the effect was not only good, but at the same time the plant provided a most welcome lot of material for the furnishing of large vases and the like. The plant was in the first place trained to wires fixed to the wall, and having occupied the same position for three or four years, covers a good deal of space. Moreover, the growths being trained somewhat thinly, or rather the natural demands upon it not permitting of much crowding, each growth is hardened by exposure to light, and therefore the more durable when used for cutting.

Forced Lilac.—The production of L. ac. flowers all the year round is not a mere form of expression of a theoretical writer, but an actual fact fully established by practical experience. Last June 20 we saw in one of the largest forcing establishments of the Paris district two houses filled with Lilacs in process of forcing, the plants in one house just commencing to flower, whilst those in the other house had hardly begun to grow. The latter plants had consequently been retarded for more than a month. It is well known that even during the normal period of Lilac bloom in the open air the florists prefer and pay much higher for Lilac flowers grown under glass, because they are much whiter, more numerous, last longer, and are more readily made up into bouquets, &c. Last August we saw at the Halles Centrales, Paris, the first bunches of forced Lilac flowers which had been cut from plants of the year, that is to say, from shoots which had been fully developed in the spring. These plants had thus come into bloom nine months earlier than the flowering time of similar plants grown in the open air—a wonderful difference! This is one of the most interesting examples of the gardener's skill, and shows what may be done by means of operations judiciously carried out. As regards the forcing of Lilac, it is well known that the plants which are to be forced must previously have been kept fully at rest, having been taken up and stored in a dry place for several weeks. In the case of the early-forced plants just mentioned it was necessary that the ripening of the branches should be hastened and the plants taken up and rested so that they might be ready for planting about July 10.—*Revue Horticole*.

ORCHIDS.

NOTES ON ONCIDIUMS.

ALL through the year the blossoms of various kinds of Oncidium may be seen, and it is doubtful if a more useful genus of Orchids exists. The only point that can be urged against them is that many of the species contain a good deal of yellow in some one or other of its tints. But charmingly blended with these are many different tones of brown, chocolate, purple and crimson, and though it is usually easy to tell an Oncidium at a glance, there is a great variety in form and a wide difference in the size and disposition of the blossoms. Some are produced singly on the scapes, others on long branching spikes, while, again, the macranthum and lamerigera sections bear racemes with the flowers occurring at considerable distances apart. Oncidiuns are found growing naturally over a wide area, embracing the cool hilly regions of Mexico, Peru and Ecuador, and the dense tropical forests of Brazil, so that under cultivation it is impossible to treat all alike. The species named below are all now in flower, and include some of the better known and most

useful kinds that should be represented in all collections. A very old species, yet still one of the best of all, is

O. CRISPU, a Brazilian kind, introduced as far back as 1830. The plant has a creeping wiry rhizome, and from this the pseudo-bulbs proceed at intervals. They are usually rough in appearance and of a dark bronzy red, as are the leaves in many cases. The bloom spikes precede the growth and in strong plants attain a height of about 2 feet, and contain upwards of forty large showy blossoms. The sepals, petals, and lip are brownish yellow, the former frequently spotted with red, the lip having a bright yellow centre and a few crimson markings about the column. This plant has been frequently imported and is consequently cheap and easily obtained. The best way to grow it is in shallow wood baskets suspended from the roof in a light sunny position in the Cattleya house. The baskets must be filled three parts of their depth with clean crocks, as the roots do not require much compost. Equal parts of peat and Moss with plenty of crocks intermixed will grow well, and the rhizome must be firmly pegged down, otherwise fixed so that the roots may easily lay hold of the compost. Not much water will be required during the resting season, but enough to keep the bulbs and foliage in good condition must be allowed. When growing freely on the other hand, a full supply is needed, and this must be continued until the flowers are over. The plant is rather erratic in its habits and often in the middle of winter will push flower spikes or growth. When this is the case the treatment must, of course, be varied to meet it, but if the plants keep naturally to an annual routine of resting, growing and flowering, they will be much healthier and more satisfactory in every way. The species varies considerably and a few named varieties have been described.

O. EXCAVATUM is an easily grown, handsome, and very free blooming species, with green, leafy pseudo-bulbs about 6 inches in height. The large branching inflorescence makes a bright and effective display, as on strong plants each spike will carry scores of the bright yellow and crimson blossoms. To grow this Oncidium well, a large pot and good depth of rough open compost are all that are needed. The roots are freely emitted and run strongly among rough lumps of peat and charcoal, and they have the rather unusual family among Orchids of enveloping the compost firmly, so that while growing it is almost impossible to over-water it or to health and well establish. It is a most fastidious plant as to temperature, as it thrives either in the Cattleya house or with the Odontoglossa, though in the former the growth is usually stronger. After the blossoms are past and the pseudo-bulbs have attained full size, rather less water is required, and during the winter the temperature ought not to fall much above 50° at night. It is found growing naturally at a considerable elevation in Peru. Possibly there is not a more useful or free-blooming Orchid in existence than the good old

O. FLEXOSUM, the long branching panicles of its pretty little yellow blossoms making a welcome addition to any group of flowering plants, or in a cut state being in great request by florists. It may be said to be the easiest of all to grow, and it will flower freely either in the cool or intermediate house. I always use plenty of Sphagnum and charcoal for this Orchid, for although the roots exist and the plant grows even in a heavy compost, the difference between these and others planted in a lightly made up medium is very great, otherwise the simplest cultural details are all that are required to obtain capital results. It is worth noting that if the flowers are not required with very long stems these may be cut off just below the bottom bracts, when in many cases they will break out and produce another spike. O. Flexosum has been in cultivation since 1818, and is a native of Brazil. A form of this Oncidium called flexosum majus is a superior plant to the type and a really fine Orchid, very scarce in cultivation.

O. Forbesii is a magnificent species and one which is easily grown. Newly-imported plants move along with vigour for a few years, but after this the well known backward tendency sets in and it soon begins to produce weaker growths and smaller spikes of flower. This is often hastened by thoughtlessly leaving the spikes of flower too long upon the plants, but in any case it is a tricky subject. I have tried the plant in a variety of ways and have been fairly successful with it, but plants now flowering are certainly not so good as they were three or four years ago, and I fear it is only a question of another season or two before they go altogether wrong. A temperature intermediate between that of the Cattleya house and the cool house suits the plants best, and the pots or pans used for it should not be larger than is necessary to take the roots easily and allow a little margin for compost. Equal parts of peat and Moss, with crocks and charcoal added, and good drainage must be given, and care is necessary in repotting. It also thrives on rafts lightly dressed with Moss, but gives more trouble in watering when growing in this way. A decided resting period is necessary after bloom, and during this time the less water the plants get the better, provided the pseudo-bulbs are not allowed to shrivel. The flower-spikes appear in the sheathing bases of the leaves and carry a large number of flowers. These are rich brown in ground colour and have the appearance of being varnished. The margins to the segments are bright yellow and wavy, and a few yellow and red markings are usual about the rather prominently-raised crest. *O. Forbesii* was named in compliment to Mr. Forbes, once gardener to the Duke of Bedford, in whose collection it first flowered. It is a native of Brazil.

O. incurvum is one of the smaller-flowered kinds, producing its blossoms on long arching spikes that appear in early summer, but take a long time to come to perfection. The flowers last well in good condition and are white, with purple bands and stripes, the lip usually pure white. It is a Mexican plant and dislikes much heat. A plant showing here in a cool fernery has twenty spikes of bloom that have been open for nearly six weeks. It is a free-rooting species and may be given medium-sized pots, of ordinary peat and Moss mixture suited to it well. During the time it is growing, plenty of atmospheric heat and root moisture is desirable, and if the plants while in bloom are placed in rather drier quarters it helps to steady down the growth just maturing. It does not vary so much as most other Oncidiums, but a pure white variety is in cultivation, though seldom seen. *O. incurvum* was introduced in 1845.

There are one or two other Oncidiums now in flower, including the well-known *O. tigrinum* and its varieties, the Buttercup species, *O. Kramerianum* and *O. Papilio*, and a few late plants of *O. macranthum*. K.

Cypripedium Harrisianum elbo-purpureum.—This hybrid is extremely variable, and the present variety is one of the darkest and most beautiful of all. It is, unfortunately, rather rare in collections, a much poorer form having often to do duty for the true one. This has a very deep purple tint on the dorsal sepal, and the lip is of a beautiful vinous tint as seen in *C. barbatum nigrum*. All the Harrisianum varieties are good and useful Orchids, free-growing, and blooming and thriving under the most ordinary cultural conditions. It is one of the finest of the late Mr. Dominy's hybrids and first flowered as far back as 1869.

Laelia autumnalis superba.—A beautiful form of the darker variety of *L. autumnalis* comes from a correspondent under this name. The blossoms are each $\frac{1}{2}$ inches across, the sepals and petals dark crimson-purple, the lip deeper in colour in front, with deep yellow crests. The colouring of the whole flower somewhat resembles that of *L. anceps Barkeriana*, but the flower is much larger. *L. autumnalis* thrives well at the

coolest end of the Cattleya house if no Mexican house is at command and if grown in pots should only have a thin layer of compost over good drainage. A light position and plenty of air are needed and the roots must never be dried much.

Vanda Sandiana.—An enormous specimen of this Vanda is at the present time in flower in the collection of Mr. J. Gurney Fowler, Clevelands, South Woodford. The plant has seven growths and twelve flower-spikes, carrying the extraordinary number of 137 flowers of remarkable size and good substance. I well remember the stir which *Vanda Sandiana* made when it flowered in 1883 with Mr. Lee, Downside, Leatherhead. It then carried three spikes of flower. The plant was fully described in *THE GARDEN*, vol. xxiv. (p. 236). It was also figured and a coloured plate given in *THE GARDEN*, vol. xxv. (p. 104).—STEELIS.

Cochlioda rosea.—I recently noted a nice piece of this pretty little Orchid in flower, and although the blossoms are small and rather insignificant in themselves, the bright racemes lend a welcome bit of colour at this dull season. *C. rosea* is often called *Oncostylis rosea*, and like the majority of this genus thrives in a cool, moist house all the year round, this species being especially happy if it can be accommodated with a position not far from the roof glass, where the air currents are free and the plants get a good light without having the foliage scorched. Only small pans or pots should be used, as the roots are not very vigorous and the usual mixture of Moss and peat over good drainage suits it admirably.—R.

Epidendrum fragrans.—The delightful perfume and singular form of the flowers of this Orchid make it worth a place. It is very free blooming and of easy culture, requiring only to be potted in equal parts of peat fibre and Sphagnum, and grown in a light position in the Cattleya house. The young growths push in spring and soon form pseudo-bulbs, and the quaint-looking flowers occur from a sheath at the top of these. The sepals and petals are creamy white, and, in one or two others, the lip appears to be turned upside down. The lip is white in ground colour, the hollow portion beneath the column being streaked with crimson-purple.

TRICHOSMA SUAVIS.

Many amateur growers have been disappointed on taking up the culture of this Orchid, which, owing to its very free-flowering nature, often pushes up its bloom-spikes before the plant is really strong enough to bring these to perfection. In consequence the spike is hardly pushed above the leaves, and two or three flowers closely huddled together and showing no individual character are produced. Such flowers of course are the reverse of beautiful and should be picked off before opening, as their development only means a strain upon the plants and serves no good purpose. But when the plants get strong and well established it is an extremely pretty species, the racemes being terminated by young growths and having several rather large flowers, creamy white, with a crimson and yellowish tint to the three-lobed lip. The flowers last fairly well and are very fragrant. *T. suavis* is an epiphyte, with stems about 6 inches or rather more in height, creviced with a pair of deep green leaves. It thrives well with the Ongontoglossums when healthy, though probably newly-imported plants are better for a little more heat. The roots are rather large and of the kind that cannot stand a close, heavy compost. Clean fresh Sphagnum they delight in, and only a very little rough fibrous peat need be added to this, with plenty of rough crocks and charcoal. A thin layer of this suffices, the drainage coming within about an inch of the rim of the pot for small plants, those of larger size requiring a little more depth. Allow a fair margin in choosing the pots in order to prevent frequent potting, for as long as the compost is in good order this ought not to be disturbed. When repotting it is usually best to remove nearly or quite all of the old material from about the roots, their habit being to pro-

duce a tier from each set of new stems, the old ones not being very persistent. These of course will be cut away, and by their removal make room for new compost. This tiered habit will help so as to elevate the plants and throw off superfluous moisture. The best time to repot is when the young growths are starting, and careful watering is essential for a time. Every endeavour must be made to induce a free growth, to this end giving as much moisture to the roots as they can take while growing and never allowing them to become really dry at any time during the year. Once get the plants into a free habit of growth and no fear need be entertained as to a plenteous bloom, for they are sure to flower from every strong shoot. Thrips are sometimes troublesome, especially if the atmosphere is at all dry, but otherwise the plant is singularly free from insect attacks. *T. suavis* is the only known species in the genus, and has been ascribed by various authorities to *Cycloglottis* and *Eria*, from both of which genera it differs considerably. It grows naturally at considerable elevations on the Khaya Mountains and was introduced in 1849.

A NEW ORCHID PAN.

FROM MESSRS. ROSHER AND CO. OF IPSWICH, come samples of a new and improved Orchid pan now being sent out by them in various sizes. It is called the "Clozono," and should prove useful to amateur cultivators of this family of plants. The principal feature is a raised cone in the centre of the pan, intended to do away with a good deal of crocking, and also to ensure aeration of the roots, the inner side of the cone being hollow. The plants may easily and readily be fixed by wiring them on, and the thickness of the compost can of course be easily regulated. For this reason the pans will be useful for such plants as *Oncidium*, *Odontoglossum*, and many other Orchids that do not require a great thickness of compost. They should also prove of service in establishing newly-imported plants, and it will be an easy matter to add new compost as this becomes necessary, without disturbing the plants at the root. In principle it is an improved adoption of the old pot-block that some years ago was much used for Orchids, but it has several advantages over this, as will at once be seen when using. The pane are pierced all round for wires, in order to suspend them, and having several plants growing in this way in the collection of the inventor, I may say that they have a very natural and neat appearance. The larger sizes for standing on the stage are provided with feet about an inch high, this allowing a current of air to pass inwards and upwards to the roots—an important point with the epiphytic section. The plants, moreover, when once they obtain a hold of these pans cannot possibly become loose at the root, owing to sinking of the compost, as they do occasionally in pots or baskets. The absence of crocks as drainage makes them very light, and they are consequently easily dipped or moved about for examination, and for the same reason woodlice and other insects are not so likely to harbour about them. Where room is scarce the size of the base will go rather against their general use, but, of course, if room can be found for them the plants are all the better for standing well apart. Although the plants referred to above had recently been put into the pans, it was evident that they liked their surroundings, the roots in many cases being well through the compost and showing on the inner side of the pans. Several Dendrobiums had done very well, including a piece of *D. Davonianum* with very long, well-finished growths, *D. Phalaenopsis*, *D. nobile* and several others. I can safely recommend amateurs who find a difficulty in keeping their plants well drained and the compost sweet to give the "Clozono" pots a trial. They are undoubtedly a great help in this respect.

H. R.

Epidendrum prismatocarpum.—The flowers of this Epidendrum, which are very handsome, are freely produced and last a long time in good con-

dition. They occur at the apex of growth in racemes containing from ten to fifteen each. The sepals and petals are narrow and pointed, yellow, with large spots of purple, the lip rosy purple, margined with faint yellow. The pseudo-bulbs are pear-shaped and bear several long green leaves on the top. This species thrives well in a fairly warm house and should be grown in pots in a good open compost. While growth is active an abundant supply of moisture is required, and, being evergreen, it must not be much dried even in winter. It is a native of Chiriqui and was introduced in 1863.

Cypripedium Charlesworthii (Rougham Hall variety).—From Mr. H. Henley (gardener to Mr. E. J. Johnston, Rougham Hall) comes a very remarkable form of this popular Cypripedium. The dorsal sepal, petals and pouch are of the usual form and colour seen in a good variety of *C. Charlesworthii*, but the lower sepal is very large and handsome. The centre of this is pale green lined with a deeper shade, then a broad white line on each side, with a rosy purple stripe. Beyond this there is a wide margin of colour exactly the same as that of the dorsal sepal, viz., a rose white ground almost entirely covered with bright rose-purple. The width of the sepal is considerably over 2 inches, which naturally alters the appearance of the flower. It is a striking and quite distinct break from anything else that has been described, and I have little doubt that the variety will remain constant, as there are several other blooms on the plant, including one twinned-scarce, all these being similar to the one described.

CATTELEYA BOWRINGIANA.

The flowers of this fine species are very pretty and effective, and serve to brighten up many an Orchid house during the dull, dark days of the present and succeeding months. It has long, rather narrow pseudo-bulbs and leaves, the spike occurring on the apex of the former and carrying a considerable number of blossoms. Each of these in a good form is from 3 inches to 4 inches across, the ground colour of the sepals and petals being a warm rosy purple, with dark crimson veins; the lip bright purple, with a white centre. The culture of *C. Bowringiana* is not at all difficult. It likes a full Cattleya house temperature, and on several occasions this season I have seen the plants doing extremely well in a temperature bordering closely on that of the East India house. Whether among growers in the vicinity of the metropolis this was first done to get the blossoms early and out of the way before the worst of the foggy seasons came on, I ask, I cannot say, but if they have, fortunately, hit upon the right mode of treating this pretty Cattleya. With regard to repotting, the best of all time to do this, as I have often pointed out when treating of other species, is just when a flush of roots from the last made bulb is being emitted. Catch them at once; never, by any means, wait until they are an inch or so long, for in this case it is impossible to repeat without seriously damaging them. Quite recently I saw several fine plants that had just been repotted, though the flower-spikes were well developed and the individual blossoms could be plainly seen. The young green points of the roots were pushing vigorously into the new compost, and long before winter these plants will be re-established in their pots, so that they will hardly feel the removal. Had they been left until the spring before being potted they would certainly have had the growing season in front of them, but root action is never so brisk as during early autumn. The best compost for it consists of equal parts of peat and Sphagnum, carefully shaking out the loose sand and dirt from the former and all decayed portions of the Moss. Keep it all in a rough open condition, and pay especial attention to the drainage, as this Cattleya when in full growth requires a very large quantity of water. Even in the winter it will not stand being kept very dry, shrivelled pseudo-bulbs and weak growth in spring being the

inevitable result of this treatment. *C. Bowringiana* is an Orchid that has come rapidly into favour, for though introduced not much more than ten years ago by Messrs. Veitch from Honduras, it is now represented in almost every collection of any size in the country. R.

Cephalotus follicularis.—In one of the cooler Orchid houses at Cambridge Lodge is a capital lot of this quaint pitcher plant. It is very curious indeed, the leaves about half an inch long which form pitchers, growing in tufts very closely together. The pitchers are variously coloured, usually deep green with a dark purple suffusion, the front portion being overlaid with rosy pink venations. The plants are grown in living Sphagnum Moss, and this pushing up around them makes a nice setting for the leaves. They are potted as loosely as possible with plenty of hard material to prevent the other particles of the compost running closely together. A humid atmosphere must always be kept up about them, and this is usually managed by keeping them constantly under bell-glasses and frequently damping the Moss. The roots, too, will not thrive if dry, and for this reason the drainage must be ample, so that the water can pass quickly away. No great difficulty will be found in its culture if these few points are attended to and propagation of the plants may be effected by division. This ought to be done before the plants have made much growth, and in separating and repotting great cleanliness must be observed for the plants cannot thrive in soddened and decayed compost. *C. follicularis* is the only cultivated species in the genus, and is a native of Western Australia, whence it was introduced in 1822.

Nanodes Medusa.—A striking instance of the peculiarities of Orchids I noted recently at Cambridge Lodge, when Mr. Chapman called my attention to two plants of this quaint species growing side by side in baskets suspended from the roof in the Cymbidium house. Each plant had been treated exactly alike, and from their proximity there could be little or no difference in the atmospheric conditions; yet one had grown to a remarkably fine plant, with twenty-two large, healthy growths clinging all round the basket, while the other was making very little progress in fact, looked far from happy. Another instance was seen in the same collection, *Phaius tuberculosus*. Among a batch of this, plants side by side were quite different; the one healthy and full of vigour, the other existing as if under protest against the treatment it was receiving. It is difficult to account for this state of things, but, presumably, it is due to inherent lack of vigour in the plant when imported which does not at once show itself. The Nanodes mentioned is a pretty plant when well done, the peculiar purple tint of the quaintly-formed blooms showing up well against the grey tint of the foliage. It delights in cool house treatment when well established, and should not be overburdened with compost. It does not require any resting season, and certainly no dry rest.—H.

Paphinia grandis.—This singular looking Orchid is now in flower, the blossoms emitting a very powerful though not very pleasant scent. The spikes push from the side of the last made pseudo-bulb, the individual flowers being upwards of 5 inches across. The sepals and petals are white, blotched with deep purplish-brown, the lip also brown and dark purple. The plants grow freely if suspended from the roof in a good light position in the Cattleya house, but the foliage must be shaded from bright sun as it is very tender, especially when young. The roots are impatient of anything close or decayed about them, and consequently repotting must be seen to at least once in two years. Care must be taken to disturb the last formed tiers of roots as little as possible, but the older ones will in most cases be dead or nearly so. Wood baskets or pans may be used, and in either case must be well cleaned and scrupulously clean. Sound fibrous loam in the proportion of one part to two each of Sphagnum

and peat fibre, with abundance of charcoal and crocks, will suit it well. The plants while growing and rooting freely must be very liberally watered, once a day being none too often while the weather is fine and even during winter, and when resting a fair supply is needed.

AMERICAN NOTES.

The various periods of extremely hot weather, coupled with a lack of rain in the early summer, and also but little rainfall during August, have combined to make it a rather hard season for many plants in the vicinity of Philadelphia at least. July has given very hot weather and abundant rain. July however, made the general condition of farm crops fair, and at the time of writing (September 16) lawns are improving under the influence of late rains, and will soon lose the brown and parched appearance so prevalent in the past month where artificial watering was not regularly given.

Clematis.—*Clematis Jackmani* flowered very freely with us the past season, and, indeed, stands alone among purple flowering climbers for covering verandahs, pillars, or trellises, its great masses of magnificent flowers continuing for a considerable time, except when they are stricken by an unusual heat wave. This Clematis is perfectly hardy in this latitude, though sometimes going off as though blighted when in full growth in the early summer. *Clematis crispa* and *C. coccinea* are also used to some extent for covering porches, and while their flowers are not very showy individually, the foliage is graceful and but little troubled by insects. For quickly covering a porch, an outhouse, or an unsightly fence three other members of the Clematis family, viz., *C. paniculata*, *C. flammula*, and *C. Vitalba*, deserve special mention. All of these are rampant growers and very free flowering. *C. paniculata* excelling in the latter characteristic. Some small plants that were put out very late in the spring and in poor soil have been treated with lime for the past week or ten days, though the total length of the growths on them is only from 3 feet to 4 feet.

Roses.—Hybrid Perpetual Roses produced a very fine crop of bloom this season, and in this district, at least there was less trouble than usual with insects, but, unfortunately, a week or two of very hot weather set in just as the Roses were opening, and consequently the flowers were small in most instances and the crop soon over. Among the Teas, Marie Van Houtte and Papa Gontier are two of the most satisfactory we have for cutting from during the summer, giving good solid buds and being seldom without flowers. Some very good flowers are also seen on La France at the present time, and last season I noted in the open garden some plants of this noble Rose that were bearing some good blooms on December 1.

THE Crape Myrtle (*Lagerstroemia indica*).—Some months ago a correspondent of THE GARDEN suggested the more extended use of this in English gardens, and noted its apparent hardiness in some places there. This plant is perfectly hardy in Washington, D.C., and in Philadelphia is seldom severely injured by full exposure to the winter, though it is not unusual to have the temperature fall to zero on one or two occasions each winter in the latter city. This refers to the tree being, I think, the harder form, but the white form is possibly more tender. In this connection I am reminded of a specimen of the ordinary pink variety of Lagerstroemia in the old garden at Mount Vernon (the historic home of George Washington), the plant in question being a rounded headed bush, fully 12 feet high, and nearly or quite the same in diameter, and at the time I last saw it the upper portion of the plant was a complete mass of clear pink flowers and was truly a sight worth going miles to see.

Datura Cornucopiae.—In THE GARDEN of August 22, 1896 (page 48), Mr. J. C. Tallack notes with admiration some plants of this that he had recently seen growing in a greenhouse. Has this plant been tested in the outdoor garden

to any extent in England. Here it grows and flowers outdoors just about as freely as the common Thorn Apple, or Jamestown Weed (*Datura stramonium*), but possibly the average summer in England may not be warm enough for its welfare. *Datura suaveolens* (or *Brugmansia suaveolens*) also does well under similar conditions, producing an abundance of its large white trumpet flowers during the summer.

HEDERA PANICULATA GRANDIFLORA AND H. HORNSTEINI have as usual been our most showy shrubs during the past month, but are now past their best, the successive shades of colour of *H. grandiflora* making it a most effective plant either as a single specimen on the lawn or in the shrubbery. *H. Hornsteini* is frequently injured by the winter in this locality unless given some slight protection, but *H. paniculata grandiflora* is perfectly hardy, and when treated to severe pruning in the spring and given abundance of water in dry weather, the latter species seldom fails to flower freely.

GORDONIA PUBESCENS is a comparatively rare North American shrub or small tree of which there are some good examples in Fairmount Park, Philadelphia. The plants in question are from 10 feet to 12 feet in height and bushy. For a number of years past they have not failed to yield a succession of their sweet-scented white flowers during July and August, just at a time when flowering shrubs are scarce in our climate. Peaty soil and the partial shade of some tall trees seem to be favourable conditions for this *Gordonia*, and so worthy a plant deserves more recognition than seems to have been accorded it in our gardens.

Holmseyne, Philadelphia. W. H. TAPEIN.

BOOKS.

THE ORCHIDS OF BURMAH.*

This work is avowedly a compilation especially devoted to the Orchids found wild in Burmah, and it is intended mainly for the requirements of students and amateurs who wish to study Burmese Orchids either in India or elsewhere. Captain Grant has made full use of the Rev. Charles Parish's article on Orchids as used in Theobald's edition of "Mason's Burmah," and he has also quoted freely from the works of Jennings, Williams, Veitch, and from the *Kew Bulletin*, the *Botanical Magazine*, and last, but by no means least, from the "Flora of British India." The classification and arrangements are mainly that of Lindley, while the nomenclature is Hooker's, the classification from the "Flora of British India" being given in appendix A at end of the volume. The work consists of 424 pages and index, and there are moreover two lists of technical terms in different parts of the volume that might well have been amalgamated in one place.

The index shows at a glance how rich Burmah really is in many of the Orchids now popular in our gardens, such as Aerides, Anectochilus, Bulbophyllum, Calanthe, Cologyna and Dendrobium. Of the last-named beautiful genus over 100 species are noted as Burmese. Phalaenopsis, Saccobium, Spachoglottis, Thunia and Vanda are other popular genera richly represented in this favoured land. The plan adopted is to describe the Burmese species of each genus, more or less fully, with references to figures, &c., in alphabetical order, and the generic character is followed by an analytical key which is appended so as to facilitate the determination of the species. For the benefit of Indian Orchid growers some cultural details are added from Jennings' "Orchids, and How to Grow them in India and other Tropical Countries."

This briefly is the scope of the work, and it is a book that will no doubt be appreciated very

highly in Burmah and other parts of India, for which it was primarily prepared. It contains nothing of great interest to European botanists, and is too strictly botanical in its tone and treatment for amateurs and others interested in Orchids for their beauty alone.

The work being merely a compilation is deficient in many ways. There is no map of Burma, and the localities or habitats given are of the most vague and general kind. In no sense except as a descriptive catalogue, can the work be considered as doing justice to the Orchid flora of a peculiarly rich and highly favoured region. There is nothing of the habits and natural surroundings, nothing of the variations in different localities, nor aught of the life history of the Burmese Orchids, or of the insects that visit them. It may be said that too much is expected, but if ever a second edition is called for we sincerely hope that on the native conditions under which Burmese Orchids grow, such as altitude, aspect, rainfall, &c. A map indicating approximately the local distribution of the genera or species, on a similar plan to that employed in Veitch's "Manual of Orchidaceous Plants," would also be a useful and important addition. In speaking of the last-named work (Veitch's Manual), in his preface Captain Grant says he was told it was out of print, which, we believe, is really not the case. The "Orchids of Burmah" is in type and in the general excellence of its production a credit to the native press of Rangoon.

F. W. B.

THE NARCISSUS, OR DAFFODIL.*

This is a handy reprint, with additions, of a paper read by the author at Sheffield some months ago. The history, culture, arrangement, insects and other enemies, hybridisation and selection of Narcissi are treated in an interesting and practical manner. Mr. Birkenshaw has charge of one of the most extensive private collections of Narcissi in the north of England, where the soil, climate and system of cultivation alike seem to suit them admirably, though the position is an exposed one on the fringe of the moors and the winter climate is occasionally very severe. At Totley Hall the finest of Narcissi are grown in broad masses of a thousand or more together on a sloping border, that is sheltered to some extent by higher ground, trees and buildings behind. It is not easy to fail to get the splendour of such groups as I saw there last spring, the varieties being Emperor, Empress, John Hersfield, Grandee, maximus, Sir Watkins, and all the best of the star or incomparabilis varieties. In smaller quantities were all the choicer new kinds, such as Wareldale Perfection, with seven flowers and buds, Mine de Graaf, Glory of Leyden, Lulworth and other rarities. Add to these four two others, viz., Ellen Willmott and Monarch, and you have the six best kinds known; but the two last are not as yet in commerce, and are not easily to be obtained. Ellen Willmott is, perhaps, the very finest Daffodil yet raised in English gardens, and its raiser—the Rev. G. H. Englehardt—may feel deservedly proud of such a success. Other new kinds not as yet much known are White Queen, a broad star-like flower of Eucharis-like proportions. Abbatross and Sea Gull are other fine white varieties of the incomparable race, and a very fine Daffodil (of vigorous growth) for market work, is Golden Bell.

Totley Hall is only a few miles from Sheffield, which is quite a historical place so far as the Narcissus is concerned. Until Mr. Englehardt began rearing seedlings at Appleshaw, on the borders of Wilts and Hampshire, nearly all our finest English seedlings were raised in Lancashire and in Yorkshire or Durham. At Meersbrook Hall, near Sheffield (now a public park, while the old mansion forms the Ruskin Museum), there

Mr. W. P. Milner grew a large collection of the Backhouse seedlings, and it was from this place that Mr. Peter Barr obtained the varieties that are now so famous; hence it is pleasant to find Mr. W. M. Milner following out what may be termed a hereditary and instinctive love of these flowers. The practical remarks as to the lifting and early planting of the bulbs, as also the original bits of observation to be met with in this little handbook, are excellent. That on p. 29, concerning Wareldale Perfection Daffodil, which at Totley Hall is very fertile in blooming and ripening seed. The photographs add to the general interest of the pamphlet, those of *N. obvallaria*, *N. Mr. Langtry*, and *N. cornuta* being especially good. Being sold at a nominal price, this booklet will be easily obtainable, and most useful to cottagers and others who wish to commence the culture of Narcissi and at the same time wish for clear and reliable information concerning them.

F. W. B.

THE LONDON BURIAL GROUNDS.*

A very interesting little book. It requires a certain amount of courage on the part of a lady to take up such a subject. It is unfortunately disfigured, like so many modern books, by thick clay paper and process cuts, which are, however, not quite so bad as these things generally are. The book is in one way useful, as showing how ugly and odious from the artistic point of view are the cemeteries of the present day. For this ugliness there is no real need whatever, and there is no reason why a high standard of beauty should not obtain in all cemeteries, and why in the future they should not be kept as beautiful gardens, as, indeed, some of the cemeteries in America have already become.

FERNS AND FERN CULTURE.*

Under this very simple title a complete and comprehensive treatise on the cultivation of Ferns has been issued by Mr. J. Birkenhead of the well-known firm at Sale. The name of the author is in itself a guarantee of the excellence of the work, and it is highly gratifying to note that such an extensive subject is treated so satisfactorily in such a small compass by one so well qualified to do it. Many are the interesting portions of the book, which does not comprise 130 pages; but the most instructive is perhaps that which, under the denomination of section 3, deals with the composts for the various genera, as the author gives lists of the names of the various plants flourishing in the several composts most adapted to their various requirements. This most interesting chapter is preceded by section 2, in which the qualities of the various soils are satisfactorily demonstrated. Section 6—devoted to light and means of shading Ferns—is also exceedingly useful, and will be read with great interest by all who are interested in Fern culture. In the next section the complex questions of temperature, ventilation and watering Ferns are freely and extensively treated. The general cultural notes are—as may be expected from the pen of a man who grows and writes with valuable hints which cannot fail to prove useful to the general cultivator, and in particular to the amateur, for whom the book no doubt is particularly intended. Not the least important portion of the book to Fern growers in general is section 10, in which the whole of the Ferns known in cultivation are divided into special sections with their various uses. Valuable information respecting the cultivation of Ferns in fancy ways, such as in hanging baskets, on cork, rockwork, Moss-covered walls, &c., is found in this unpretentious book, which is well got up and well illustrated, and which should be consulted by all concerned in the cultivation of Ferns.

G. S.

* "The Narcissus or Daffodil"—being No. 1 of Biggs and Son's Hand Series of Fruits, Flowers and Vegetables. By J. W. Birkenhead, head gardener, Totley Hall, Sheffield. 1s. 3d. with eight illustrations. (London : Biggs and Son, 139 and 140, Salisbury Court, E.C.)

* "The London Burial Grounds." Illust. by Mrs. Basil Holmes. London : T. Fisher Unwin.

+ "Ferns and Fern Culture." By Mr. J. Birkenhead, Sale, Manchester.

* The Orchids of Burmah (including the Andaman Islands). Described and compiled from the works of various authorities by Captain Earle Grant, The Border Regiment, Adjutant Rangoon Volunteer Battalion, Rangoon. Printed at the Hauthwaitey Press, 1895. London : Bernard Quaritch.

TREES AND SHRUBS.

THE BEECH.

(FAGUS SYLVATICA.)

THE Beech, justly admired for its stately crown and beautiful green foliage, which render it a desirable ornament in parks and large

have a more or less upward tendency, and form a symmetrical and majestic crown. Upon young trees the bark is of a greenish grey hue, but as the tree matures it assumes an Ash-grey colour. The leaves, when young, are soft and delicate, and of a beautiful yellowish green colour, but as the season advances they become deep green. In October they become yellow

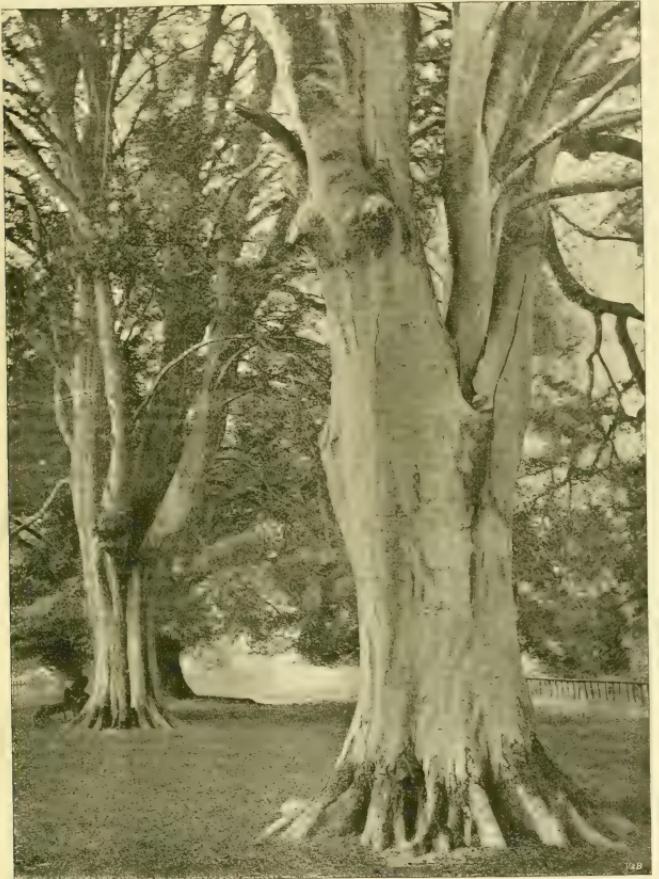
not seem to thrive well at a greater altitude than 2000 feet. In Thuringia and among the Harz Mountains, noble Beeches, 100 feet in height, are found at an elevation of 1800 feet. The finest Beech forests in the world are situate in the island of Rügen, on the dunes of Denmark and Mecklenburg, and on the plains and low hills of Germany. It is in these regions, where Beech forests cover many thousand acres, that the tallest living Beeches are to be found. In the last century, Beeches 174 feet in height were cut down in North Germany, and at present many single trees exist there which are 136 feet high and 41 feet in circumference. Beeches thrive best in a surface-soil of poor, dry, sandy loam, with a subsoil of chalk mingled with gravel, sand, and small stones. Those trees which grow upon mountain slopes, or on low humus-covered hills, with a northern or eastern exposure, yield the best timber. The Beech attains its full height when about 100 years old, and then lives in perfect vigour and health for 200 or 300 years. Trees of this age are generally from 10 feet to 15 feet in circumference. In damp poor soils, Beech trees frequently perish from internal rot between their seventieth and ninetieth years.

Of the common Beech some very ornamental varieties may be met with in cultivation—as, for example, different kinds of Weeping Beech, also the purple and copper-leaved varieties, and the Fern-leaved Beech, the leaves of which are cut into narrow segments, resembling the fronds of a Fern.

The timber, which is heavy, hard and durable, is extensively employed in the manufacture of numerous implements, tools, and articles of furniture. On account of its brittleness and liability to the ravages of insects, it is seldom employed for building. Beech timber is especially adapted for sub-aqueous structures, or for positions in which it is not exposed to the action of the atmosphere. As fuel the Beech is very valuable, and is surpassed in heat-giving qualities only by the Hornbeam and Maple. The charcoal of the Beech is highly esteemed on account of the equable heat which it emits. The bark is useful to tanners, and from the ashes of the wood excellent potash is obtained.

In Denmark, Sweden, and some parts of America the leaves of the Beech are carefully picked, dried, and used to stuff bed-ticks and pillows. The leaves and ashes form an excellent manure for grass and Clover lands, and the husks and nut-skins contain a very poisonous material known as fagin. The nuts themselves form a favourite food of some birds and quadrupeds, red deer being especially fond of them, and they are also, in some countries, boiled, dried in the open air, parched by artificial heat, and ground into meal from which bread and soups are prepared. The nuts have a pleasant flavour and are very oleaginous. Considerable quantities of oil, resembling almond oil, are obtained from them by pressing. The best season for fellling Beeches is the month of December.

The following description of the Beeches at Blair Drummond, Perthshire, two of which we figure to-day is given in "Hunter's Woods, Forests, and Estates of Perthshire":—Although Oaks are very numerous, the Beech



Beeches at Blair Drummond, Perth. From a photograph sent by Mr. M. Jackson, Perth.

pleasure grounds, is found in most parts of Europe, and is one of the handsomest and most valuable of our forest trees. Its trunk is erect and massive, and its height is usually from 100 feet to 130 feet. The roots spread for 10 feet or 12 feet round the tree, but none of them go deeply under the surface, except the tap-root, which penetrates perpendicularly into the earth for 3 feet or 4 feet. The branches

and dry, shrivel up, and fall to the ground. Upon young trees, however, the withered leaves often remain on until they are forced off by the swelling of the fresh buds in spring. The fruit, which is ripe in October, consists of rough spiny capsules, each of which contains two or three smooth triangular brown nuts.

The highest elevation at which it is found is 5000 feet above the level of the sea, but it does

is still more conspicuous. The finest are situated along the side of the Teith, where there is a row half a mile in length. These were planted between the years 1725 and 1730. All these trees are large and are a great ornament to the riverside. The ground at first was subject to the periodical floods of the Teith, but it has been secured from the encroachments of the river by a substantial stone-faced embankment. The largest Beech in the row by the riverside girths 20 feet at 1 foot from the ground, and at the narrowest part of the bough, about 5 feet from the ground, the girth is 15 feet 4 inches. Another girths 18 feet 9 inches at 1 foot and 13 feet 11 inches at 3 feet. The girth of some of the others in the row is as follows: At 1 foot, 17 feet 5 inches; at 5 feet, 14 feet 2 inches; at 1 foot, 16 feet 1 inch; at 3 feet, 12 feet 10 inches. Among the Beeches in the grounds, three growing at the foot of a sloping bank may be mentioned. The largest of these girths 18 feet 6 inches above the swell of the roots and 15 feet 3 inches at 5 feet up, with a beautiful clean stem of 25 feet. In 1860 this tree, which is 11 feet 6 inches at the foot, the present girth (1883) being 16 feet, had a growth of 14 inches since that date. Of the other two, one girths 16 feet 10 inches above the swell of the roots and 14 feet 4 inches at 5 feet; the other, 15 feet 10 inches above the swell of the roots and 14 feet 3 inches at 5 feet. All these trees are about 80 feet high. Another tree, above the swell of the roots girths 20 feet 6 inches, and at 5 feet the girth is 17 feet 3 inches, with a good bough of 12 feet, a spread of branches of nearly 90 feet, and an entire height of about 70 feet. In 1860 this tree girthed 16 feet 1 inch at 3 feet, the girth at that height from the ground now (1883) being 17 feet 7 inches, being a growth of 1 foot 6 inches since that date. There is also a grove of large Beech trees growing to the east of Blair Drummond House.

Planting Hollies.—There is a great difference of opinion as to the best time of year to move Hollies, and, after all, a great deal depends upon circumstances and the size of the trees. My experience is that they do well as a rule, if lifted just as they have commenced, say, when about 1 inch has been made, and planted at once before flagging takes place. This, however, has reference only to plants that are near at hand. Those that have to be procured from a nursery any distance away, and that consequently are out of the ground for a day or two, should not be removed when in growth, as in nine cases out of ten failure is the result. Hollies transplanted also when several inches of new growth exist invariably go off in a short time. When planted after growth has started, Hollies should be watered once daily over head with a rose; this keeps the foliage fresh and the roots get the moisture as well.—C. C. W.

FLOWER GARDEN.

CAPE BULBS AT HOME.

UNDER the vague and general denomination of Cape bulbs there is comprised a group of plants of singular grace and beauty, all belonging to the natural order Iridaceæ, and more or less closely allied. Of these, the more familiar are the Ixias, Sparaxis, and Montbretias or Tritoniæ, but there are included also some less known, perhaps, but not less beautiful, such as the Babianas, Antholyzias, Watsonias, Schizostylis and others. It is not somewhat surprising that these—especially the latter-named genera—should be comparatively so seldom grown, for they are all so graceful in habit, so delicate in form and so brilliant in the variety and disposition of their colours, that one might well expect to see them as abundant in the borders as our English Daffodils. They would, too, naturally follow these. Sparaxis begins to flower, in a favourable year, the first week in

May or even earlier, and Ixias and other groups follow on in succession up to the middle of June or later, thus filling in the gap until the early Gladioli are in flower, and making bright a time of year when the herbaceous borders are by no means too well furnished with a variety of colour. Nor need the garden be without representatives of this class of flowers for the rest of the year, for you may have Tritonias and Watsonias, Antholyzias and Montbretias in flower July and early August, when their lordly relatives the Gladioli and the beautiful Sparaxis pendula will be in their full glory. These, again, will carry on the succession until the Schizostylis (the latest of them all) begins to bloom, cheering the declining days of autumn with its crimson flowers till cut down by the winter frosts. Each of these groups, too, is so distinct and characteristic, that comparisons are out of the question, and all deserve a place in our gardens. It is then surely to be regretted that they are not more popular and more widely grown, not merely in frames or in pots in the greenhouse, but in the open border. It is not everyone who has a frame to spare for them, and many people do not care to grow plants that need frame protection; besides, it is only when well established in masses or clumps in the open border that they display the characteristic grace of habit that is at least as great a part of their charm as the brilliancy of their flowers. I have heard that they may occasionally be seen established in the open borders in some of the south-western counties of England where the conditions are naturally favourable, and no doubt there are some admirers of these flowers who have come to understand their wants and who cultivate them with success. But from the occasional paragraphs that appear in the gardening papers it is evident that most people find a difficulty not merely in growing them satisfactorily, but in growing them at all; and, indeed, many who read these paragraphs form such an unfavourable opinion of these Cape bulbs, that they do not even attempt to grow them.

The causes of their want of popularity are perhaps several. They are not so well known as they deserve to be. Then they are generally considered less hardy than they really are when rightly grown. You cannot grow them anywhere; they need some special management and soil and some attention, at any rate at first. But the chief cause, I suspect, is the trouble entailed by the orthodox method of taking them up each year, storing them, and re-planting them again in the autumn; and that if conditions and method of treatment be found such that when once planted they would need no further attention otherwise than the usual routine of the herbaceous border, passing our average winters without injury, and increasing and flowering freely each year—if, in short, they could be established in the open borders, these Cape bulbs would undoubtedly soon become the most popular of flowers.

NATURAL CONDITIONS.

It seems that the right method of treatment is yet to be found. The observation and study, however, in their native home of the conditions under which these seemingly delicate plants are able to hold their own in the fierce struggle for existence cannot fail to give some hints towards the desired end, and it is here I have something to say which I hope may be of use in the matter. Of course, it will not necessarily follow that the conditions which suit them in their own country will equally suit them under alien skies, and this can only be definitely settled by actual trial. There is also

the further question whether these natural conditions can be reproduced in this country in the open borders. I am hopeful that practically they can. We have not, it is true, the balmy climate of the Cape, but, for reasons that will appear later on, I do not think that is so essential a condition as is generally supposed. I recently spent two years in South Africa, and while there I saw, in different localities and at different times of the year, representatives of nearly all these groups growing wild. In some favoured spots they covered the ground literally like grass. I was so struck with their extreme beauty when flowering thus in large masses, that I took every opportunity to observe the conditions under which they were growing in order that I might, if possible, fathom the secret of their successful cultivation. Leaving out the question of climate, such conditions as I found invariably present, and which I therefore conclude are the conditions essential to success in the cultivation of these Cape bulbs are: First, a perfectly drained, porous soil. To anyone who has travelled in South Africa it would hardly be necessary to point out how admirably the formation of the country is adapted for securing a well-drained soil. The great height—2000 feet to 6000 feet—at which most of the African continent lies above the sea, combined with a very sandy, porous soil, does not give the water much opportunity to lodge anywhere; and then, in addition, the country in many parts is traversed by deep "kloofs." These kloofs—so characteristic a feature of South Africa—are deep and comparatively narrow water-worn clefts, with precipitous, almost perpendicular sides. Some that drain large tracts of country are hundreds of feet deep, but they are often perfectly reproduced in miniature in the little tributary watercourses that may be, perhaps, but 6 feet deep. The draining effect of this formation can be readily realised. On the banks, extending almost to the very edge, of one of these miniature kloofs near the western foot of Table Mountain I saw a belt of Ixias growing so thickly, as to almost hide the soil; and (the ground being level) it was noticeable that they did not extend very far from the edge of the bank, being superseded at a little distance by grass and shrubs. In other parts, as in the Kuyasa district, the country is broken by narrow, rocky spurs and deep gullies that run down from the forest-clad edge of the mountain plateau. On the steep sides of these spurs the drainage must be perfect, and here again, is another home of several groups of these flowers. Here I saw in April (the South African late autumn) a species of Antholyza in bloom covering the hillsides with a mantle of crimson and silver, and this was but one of many such beautiful sights that may be seen in the districts where various of these Irises have taken possession of the soil.

NATURE OF THE SOIL.

Another feature that no one can be long in Africa without noticing is the general sandiness of the soil. Wherever I have found these bulbs growing the soil has been of a coarse sandy nature, generally hard and compact, and yet extremely porous. So porous, indeed, is the soil, that on the high veld the dust will be blowing a few hours after even the heaviest rain storms. The great underground rivers of the Karroo and Kalahari, and the many instances where rivers, full and broad at their head, will diminish and even run dry on their way to the sea are striking evidence in the same direction. It is this prevalence of a porous sandy soil and the formation of the country so well adapted for securing a rapid

and thorough drainage which brought me to conclude that it is these conditions, far more than the climate, that have made South Africa the home of so many representatives of this class of plants. I only came across three partial exceptions, species of *Hesperantha*, a small species of *Gladious*, and *Dierama* (*Sparaxis*) pendula. These, though growing in a very porous soil, were at the same time in a comparatively low-lying situation that must have been moist all the year round. I found them also growing on drier ground, but less abundantly.

A THOROUGH RIPENING OF THE BULBS.

In a warm porous soil the bulbs can feel the ripening influence of the sun more readily, and at a greater depth than they could in a colder and heavier soil. At any rate, so far as my observation went, I always found them flourishing most on slopes that faced the midday sun; indeed, with the exception of Babianas, I seldom found them anywhere else.

DEPTH OF SOIL COVERING THE BULBS.

I never found a bulb of any of these various genera less than 6 inches beneath the surface, and I usually found them much deeper—Babiana 6 to 9 inches, *Sparaxis pendula* 9 to 12 inches, and *Antholyza* over a foot deep. It sounds a great depth for such small bulbs, but the porous nature of the soil must be remembered, and at any rate in this country it would have, in addition to being their natural habit, the obvious advantages of retarding somewhat the appearance of the leaves above the ground in the autumn and of making the bulbs more secure against an exceptionally sharp frost. The value of good drainage and a thorough ripening of the bulbs is generally recognised, but the advantage and even necessity of deep planting, I think, are not. At any rate, it is not generally recognised that this is their natural habit, for in nearly all gardening publications where cultural directions are given for these Cape bulbs you will find 4 inches to be the greatest depth advocated, although at Kew they evidently know better; so I suggest that perhaps this is one of the causes of frequent failure. These plants undoubtedly require abundance of water when making their growth and flowering. In their native country they flower during the rainy season. But it will be superfluous to lay much stress on this item when advocating their cultivation in this country.

There is another point, viz., the chemical composition of the soil. In the soil in which these bulbs grow the sandy particles do not by any means consist solely of silica. It is invariably formed by the weathering and decomposition *in situ* of the older rocks (metamorphic or igneous), the coarseness being due, I think, to the finer particles being washed off the surface of the steep slopes, and even of the more level veld by the heavy rain storms. I believe that the compactness and to a great measure the porosity are brought about by the decomposing felspar (silicate of potash) of the igneous rocks. As this mineral slowly decomposes the silica set free binds the other particles together, while the base, combining with nitric or carbonic acid, is dissolved, leaving minute spaces throughout the soil. The felspar also provides a gradually available supply of potash, and, together with the various other minerals always present in these older rocks, forms a complete and practically permanent medium, containing abundance of all the constituents except nitrogen that plants need for their growth. The nitrogen they no doubt obtain from the decayed leaves and grass that are washed over them, and I am inclined to think that they do not require so much

of that constituent as most plants do. Neither do they require or thrive in a soil containing much lime; indeed, I think they prefer a soil without any, or hardly any, lime in it. Without going any more into detail about this most interesting question of plant foods, I may, however, suggest that when preparing the borders for these bulbs, instead of using only silver or sea sand to make the soil porous, the addition of a proportion of coarse granite chippings from the stone-cutting yards, or quarries would very probably materially contribute to the success and the permanency of the planting. This use of granite chippings has hitherto generally been confined to supplying the special wants of certain rock garden plants but I believe it would also prove beneficial to many border plants, at any rate in the eastern half of England, where the

they will vary, too, somewhat according to the nature of the ground and the fancy of the gardener. I may, however, suggest, as the result of my own experience, that, in addition to the ordinary underground operations, it will be found advantageous, if not necessary, in most parts of this country to raise the border above the surrounding level in order to secure the exceptionally perfect drainage that these bulbs seem to require. The total depth of soil should certainly not be less than 18 inches, or, better still, 2 feet.

No fresh stable manure should be mixed with the soil in which these bulbs are planted. This is simply fatal. I also think it is better to use no manure of this nature at all, even if well rotted. Judging from the soil in which they grow in their own home, I should say they do not require or like a soil containing much humus. There was sometimes a peaty layer on the surface, but the bulbs, except in the case of *Dierama pendula*, were always well below it. If any manure be used, I would advise an artificial manure of a slow-acting, permanent kind. I think also a mulch of 2 inches or 3 inches of decayed leaves every year about the end of October would be very beneficial.

Eyleet, Surrey. A. J. BLISS.

CRAMBE CORDIFOLIA.

THIS interesting member of the Seakale family, commonly known as the heart-leaved Colewort, has been more of a puzzle to me than anything I have grown. Seeds were started in the spring of 1893, producing in my trial grounds ordinary looking coarse-leaved plants of no ornamental value. The next year, having two vacant spaces in my shrubbery of say 3 feet each in diameter, I planted a *Crambe* in each, and my trouble soon commenced. The plants threw out leaves of enormous size, which before the summer was over each measured over 5 feet in width, overcrowding everything. I was in a predicament as there were choice plants in danger. I saw at once that standing alone on the lawn it would produce a grand effect, but where it was it was decidedly out of place. That fall I chose a spot near a large rock at the base of which was a water-tap. I dug a hole 2 feet deep and as wide, made a basin of coarse gravel at the water-tap to catch the drip, and connected it by 3-inch tile pipes with the bottom of the hole, then mounded up the soil some 15 inches above the ground level, banking up the sides with sod, the object being to raise up the plant so that its enormous leaves, which I anticipated, would show off to advantage. One plant was put in and protected for the winter. Early next spring—1895—it showed itself, and before the end of May it threw up four flower spikes. Here was a quandary. No literature at my command mentioned any especial features of its bloom. I imagined that if I let it bloom it could not produce its enormous leaves, and I started to cut them. After one was cut I repeated and allowed three to remain, but my conjecture was right, as the leaves were under 2 feet in diameter, but on June 10, when photographed, it presented a magnificent picture. The bloom stalks were 7 feet high and branched over 6 feet in diameter. The individual flowers are white, small, numerous, and dis-



Crambe cordifolia at Egendale. From a photograph sent by Mr. W. C. Egan, Highland Park, Ill., U.S.A.

soil is chiefly composed of the more recent deposits. Although, it is true, I have tried to minimise the influence of the climate, I will not pretend that a genial climate, such as is found in most parts of South Africa, does not to some extent contribute to the freedom and vigour with which these bulbs flourish there. We may, however, to some extent imitate this climate in our gardens by planting the bulbs in a border under a south wall, protected also from the east winds, which in the spring are far more likely to do harm than the frosts in winter.

These, then, are the conditions which, from observation in their native country, seemed to me to be essential to the successful cultivation of these bulbs. Of the methods of securing them in our gardens I need say nothing here;

posed in much-branched panicles. After bloom-
ing the stalks were cut, and the plant looked
well the remainder of the season, the leaves not
growing any larger. This spring the plant
seemed to start all right, and I looked for even
an improvement on last year's grandeur, but
in a short time the leaves turned yellow and
drooped. Upon examination I found the heart
of the crown rotted, the decay seeming to fol-
low down the hollow bloom-stalk and reaching
part-way down the side shoots. Just below this
decay new eyes were breaking out. These roots
were planted out elsewhere and some are pro-
ducing plants. A blooming plant I gave to
Lincoln Park acted in the same way. The
roots are long and fleshy, and all broken ends
left after removal produce a plant. To sum up
my experience with this plant, it seems that
the first year from seed it assumes an ordinary
form, producing enormous leafage the second,
and blooming the third, after which it dies at
the crown and reproduces itself from the old
roots beyond the decay. Plants from broken
roots bloom the second year. It has proved
hardy even without protection.

Highland Park, Ill.

W. C. EGAN.

Aubrietas.—These are lovely spring
blooms, but always do best when propagated from
cuttings if it be desired to increase special
varieties. A few, such as violacea, Hendersoni
and Leichtlini, seed somewhat, but the first are
most free. Each one from seed fairly repro-
duces its kind, but it is wiser to depend on cut-
tings for the perpetuation of character. It is a
good time just as young shoots are being thrown
up profusely from the crowns of the plants in the
spring to thin them out and insert them as cut-
tings in sandy soil under hand-lights, or else in
shallow pots or pans and stand in a frame. When
rooted and planted out in a nursery bed 6 inches
apart, they make first-rate stuff for transplanting in
the autumn. Old clumps may be lifted in the
autumn, pulled to pieces and replanted, but these
seldom do so well as plants from cuttings. Seed
should be sown in a cool frame or house in May
to give strong plants by the autumn.

Forget-me-nots.—No spring-blooming plant
is more beautiful when in bloom than is *Myosotis*
dissitiflora; no hardy plant so unsatisfactory
when increased through the agency of cuttings.
Yet no plant, not even the Watercress, will in-
crease through such agency more readily. When
in the autumn clumps are masses of shoots, each
one showing incipient stem roots; it is but needful
to pull these off and dibble them in, and they are
well rooted in a couple of weeks. But all such
plants are singularly unreliable. Some do well,
some do the reverse. Even the best, however,
never bloom well or consistently, hence they are
in the spring very disappointing. There is no
way to get this lovely Forget-me-not in good
form so surely as by raising from seed. Seed sown
early in August in the open ground always far-
nishes strong plants to put out in October. These
all do well and bloom profusely. Even the com-
mon sylvatica is best got from seed; so also is the
rich deep blue Victoria. There is therefore no
reason why these pretty plants should not be
abundant in gardens in the spring.

Nelumbiums.—I was much interested in Mr.
F. W. Meyer's account of *Nelumbium speciosum*.
I have tried to establish *Nelumbium speciosum*
and *N. luteum* in the ponds here this summer, but
have entirely failed. They refused to make any
growth after they were placed outdoors. As long
as they were under glass they grew, but when
placed outdoors in June they began to go back
and at last died. In the same ponds were growing
Nymphaea Chromatella, *N. Marliacea*, *N. Odorata sulphurea*, *N. o. rosea*, *N. o. Exquisite*,
N. Laydekeri roses, and others, also *Limnocharis*
Humboldtiensis, *Villarsia Humboldtiensis*, *Ponte-
deria cordata*, *Sagittaria montevidensis*, *Arums*

and many other water plants. I mention these to
show that I think *Nelumbiums* cannot be grown
successfully outdoors without some special ar-
rangements are made for keeping the water
warm. In the pond Mr. Moyer speaks of, the
steam keeps the water warm.—W. G. TOWNSEND,
Sandhurst Lodge, Berks.

FLOWER GARDEN NOTES.

THE BEST ANNUALS.—One of the points to be
learned from the season of 1896 in connection
with flower garden work is the advisability of
confining ourselves as much as possible to the
better class annuals, those that are of most en-
during habit. I notice in nearly all the best
catalogues that the compilers of the same have
come to recognize this, and lay special stress on
any species or variety of the same that, given
careful cultivation, can be guaranteed to flower
more or less freely from the beginning of June
till the end of frost, and to make hardy plants.
Last year enough well be drawn between these and
others, which, however beautiful they may be in
themselves, are so short-lived as to be of very
little use for any prominent place in the flower
garden or, indeed, for any part of the same, un-
less circumstances only demand a very brief dis-
play. Really, now that such excellent strains of
Begonias, *Carnations*, *Phlox Drummondii*, *Petunias*,
Antirrhinums, *Pentstemons*, and the like are
procurable from seed and can be flowered freely
and successfully all through the first season, it is
probable that they will gradually supersede those
that are of less enduring habit, especially when
we bear in mind the fact that in the majority of
cases they are as acceptable in a cut state as on
the open border. It may be objected that the
necessity of sowing under cover to ensure early
flowering causes them to give considerably more
trouble than those things which may be sown in
the open and thinned out to the distance re-
quired for the development of individual plants.
This is so, but it must be remembered that with
the former when they are once planted the beds
are right for the summer; whereas with the
others, provision has to be made for refilling the
beds when their beauty is at an end. Take the
case of *Gypsophila elegans*, one of the most
beautiful of annuals, for example; it was all over
this year by the beginning of August and had to
be removed. Nor do the majority of the better
class annuals mentioned above give much trouble.
Nearly every garden has a share of suitable
leaves to generate a slight warmth, and if a bed
made up a day or two before the beginning of March
the warmth will be sufficient by the third
week in the month to allow of the seed being
sown. I should place the stocks, of which
Princess Alice may be taken as a type, quite at
the top of the tree among the best annuals, *bond-
fide* annuals that is, and not those that are
sown in autumn and wintered in cold pits.
Given a selection of the best things it must not be
forgotten that they want doing well. Of some
things it may be said that they flower best on
poor soil, but of the majority it is certainly rea-
sonable to infer that a plant that is to occupy a
certain position for four months and is likely to
flower continuously nearly the whole of that time
will only be able to do this on a bit of good soil.
The feeding of the soil will naturally depend on
circumstances. Beds that have carried Wall-
flowers all through the winter and spring and are
very dry, will take a very fair dose of rather strong
manure. I have drawn attention to a few of the
best annuals at this particular season to show
how much may be done with them, and to ob-
viate the necessity of storing away a lot of stuff
for spring propagation.

WORK FOR OCTOBER.—In addition to the plant-
ing out of those things that have been raised either
from seed cuttings, or layers to furnish a certain
number of beds for the winter and to flower more
or less early in the coming spring, other work
that may be taken in hand, if time permits, will
be the altering or entire replanting of what are
to be practically permanent beds. I am, for

instance, this week splitting up clumps of good
Pyrethrums and making bold groups of them in
two large beds, filling in with Tufted Pansies that
have been lifted from places where they will not
be wanted another season, and that are now cut
over, divided and replanted, breaking up old
plants into about three or four pieces or leaving
them entire as their condition admits or may re-
quire. A rather strange experience may, by the
way, be chronicled in the matter of these Pansies.
Nearly all the sorts made vigorous growth
after the rains that commenced about the middle of
August, but William Niel and Lillas did not move,
only by the tiny growth springing out from the
base can it be seen they are alive, and yet all the
sorts are growing in the same long border. A
broad edging of the old double Chamomile that
has served to face long, straight herbaceous bor-
ders is getting ragged, and this will be lifted,
divided and replanted, an operation which
must be carefully managed, as there are rows of
Crocus on either side that push up through
the Chamomile. Batches of the dwarf *Phlox stetacea*
in variety that were struck early in the season
may be planted out at any time. They make nice
carpet plants for Spanish Iris and will also do well
to fill in round clumps of the large flowered mem-
bers of the latter family. Addition to the stock
of silvery *Veronicas* can be made if necessary by
pulling old plants to pieces and dibbling in the
cuttings firmly in the open where they are to re-
main. I have marked some of the best of the
Starworts with the view to increasing the stock
by division when the flowers are over. Although
those of delicate graceful habit, as *Tradescantia*,
for instance, are perhaps the most serviceable,
others that are distinct in colour should not be
forgotten. *Noval-Anglia pulchellus* and *levis*
formosissimus are two varieties that are always
welcome, and the rich colour shows off to great
advantage when the branchlets are nicely ar-
ranged in suitable vases. They last fresh a long
time, as individual blooms can be nipped out as
they go off, leaving the rest of the spike intact.
The absence of frost in the autumn of 1896 is re-
markable; as yet (October 16) we have only had
2° and nothing is injured. The heavy rains have
been responsible for the disappearance of flowers
on all the *Pelargonium* family, but *Begonias*,
Fuchsias, *Ageratum*, *Echeverias*, &c., are still gay
and also among larger things are *Marguerites* and
Dalias, although the latter were broken about a
lot by the recent gales, and all the small shrubs
were severely fastened. A lot of staking and
tying has been necessary this year. The height
of many things can, as mentioned in previous
notes, be restricted by pinching back the growth
at an early stage, but with a considerable width
of border this is not always advisable.

Clarendon.

E. BURRELL.

Anemone Lady Ardilaun.—This semi-
double variety of *Anemone japonica* is not in all
soils an improvement on the old white kind,
which in its pure and chaste flowers is singularly
beautiful. In the above plant the additional
petals are by no means always of good form;
indeed, in many instances they are short and dis-
torted. Whether this defect is general or not,
whether it be a result of the exceedingly dry, pro-
longed heat of the year, I am not aware.—E. J.

October Irises.—Perhaps the rarest, or at
least most unexpected, flowers of the week were
some blooms of Iris in Messrs. Barr's group at
the Drill Hall on the 12th inst. There
were three varieties, viz., *Florula*, Purple
and Green, and *Yellow*, all well known kinds
certainly possessing novelty in the middle of
October. Of the last named we were informed
that quite a large gathering had been cut a week
or so back, and unseasonable though they are, the
flowers are welcome notwithstanding.

Acanthium Fischeri.—The majority of the
Montbretia family flower early in the summer
months, but this one is an exception and an
autumn bloomer. The plant grows 3½ feet high,
the large hooded flowers being of a clear blue and

shaded pale blue. Another kind bearing it completely is *A. Fortunei*, which is only about 18 inches high; this is also a blue-flowered species, and the same remark applies to *A. autumnale*, which bears a strong resemblance to the first-named in habit and freedom of flowering, but the flowers in the latter are more violet in shade.

Campunula seedlings.—Several seedlings from *Campunula isophylla* crossed with *C. carpatica* continue to produce flowers in wonderful profusion long after the parents have ceased flowering for the year. This is particularly noticeable in one dark blue form that appears about intermediate between both parents, that is so far as the foliage and stems are concerned. The flowers, which are smaller than those of either parent, appear to come in almost endless profusion.

Helianthus Maximiliani.—The most striking plant I saw in the middle of October in the garden attached to the Geneva exhibition was *Helianthus Maximiliani*. I have no doubt that it was correctly named, as it answers to the characters given in Asa Gray's "Flora of North America," being of more robust build than the nearly allied *H. giganteus*. The plant consisted of several stout stems about 8 feet long, which were not tied to stakes, but left to arch over, so as to present all the flowers, which extended over half the length of the stalks, on the upper side. It was growing amongst the exhibits of M. H. Correvon, of Geneva. *H. Maximiliani* makes poor show in my garden in Cheshire. Its superiority at Geneva may be partly owing to the sunny climate, but I think it was a better variety, the selection of variety being of great importance in the perennial Sunflowers.—C. WOLLEY-BOD, *Atches-Bains*.

KITCHEN GARDEN.

NOTES ON CARROTS.

WITH those who have to produce this indispensable vegetable for use by first-rate cooks, quality is the main consideration. I am not as conservative respecting the merits of Carrots as of some other vegetables, believing that many of the new strains both of the long and short sections that have been introduced of late years are really in advance both as regards flavour and colour, to say nothing of their more perfect symmetry and stability in the ripening-table. Moreover, those gardeners having rather shallow soils to deal with may now grow Carrots to their heart's content, there being so many fine strains of the stump-rooted section, whereas many of us can remember the time when there was very little choice in short varieties, the old Short Horn having to be grown by everybody. There might be a worse Carrot than this, but its chief drawback lies in its somewhat prominent core, which means waste, as cooks often discard it, using only the outside, which becomes soft much sooner when boiled, the centre, they say, spoiling the soup. It had a splendid constitution, and keeps plump and sound much later in spring than some of the newer sorts. Market growers still cling to it on account of the weight procurable per acre, just as they do to the old Altringham and Long Red Surrey, which require of course a deep soil to prevent crooked, ill-shaped roots. I have forced Carrots early for many years, and have tried most of the new sorts as they appeared. Parisian Forcing I believe to be the very earliest Carrot in existence. In form and colour it favours the old French Forcing, and is probably nothing else than an improved form of that standard sort. When cooked it is of a sweet, nutty flavour. For the second early variety the popular Nantes is hard to beat if colour and quality alone are taken into consideration, but I have proved that a variety called Market Favourite, and which has been in commerce about six years, will beat Nantes by from ten days to a fortnight in coming into use, besides which it is

of excellent flavour and has a very small core. When exhibiting I used to grow Market Favourite in a frame, splendid examples being forthcoming by the end of May from February sowings. Some gardeners think it is identical with Early Gem. I do not. If the two were grown together their distinctness would be seen by the difference in date at which they are ready for drawing. It is a trifle shorter than Nantes, but much thicker, and is stump-rooted. This variety is also unsuited for early outdoor sowing. One of the very best Carrots in the stump-rooted section is Scarlet Model, which, although growing a trifle longer than the rest of its class, is just the Carrot for shallow soils and keeps sound for a long period. Coming to the intermediate section, gardeners used to think that James's strain would never be superseded, but Matchless Scarlet and the new Intermediate are certainly in advance of that popular market Carrot—at any rate, so far as appearance is concerned—though I fail to see the least difference in quality. Where old Carrots are required in quantity very late in spring, a few rows of both the Long Red Surrey and Improved Altringham may well be grown, as in my opinion they have no equal for keeping. A dry store is ruinous to Carrots, both firmness and flavour leaving them under such conditions. The best way by far to keep them is to clamp them in the same way as Potatoes, first covering them with a little rough litter or, better still, Bracken, and finally with a few inches of soil. A few roots can then be taken into the root shed at intervals for use in severe weather. A Seakale or Rhubarb pot, if inserted at the top of the clamp, will act as an air shaft and can be stopped in very severe or snowy weather, if thought necessary, by thrusting in an armful of straw or Bracken. I find Short Horn or stump-rooted Carrots do well on ground that has received crop of Peas during summer, for if it is well manured, this being ridged up during winter in order to get it well pulverised and sweetened by frost and wind, soon becoming freely sown broadcast once or twice where wireworms are troublesome, so that the rain can wash it in.

J. CRAWFORD.

Club in Cabbages.—Will some reader kindly enlighten me as to the cause of canker at the root of Cabbages? It has almost destroyed this valuable crop on my farm this autumn. Is the cause to be sought for in the ground or in the season? Last season on the same land produced a splendid crop of the same Cabbage (Drumhead). Plants in the seed-bed were similarly diseased.—D.E.R.

Coarse Drumhead Cabbage.—With so many good types of Cabbage to select from, I fail to see what good results from growing huge Drumhead Cabbage or Savoys that require dividing into three or four pieces before they can be cooked. I am not a lover of hard, yellow-hearted Cabbage, and I bailed the advent of the small, compact kinds, like Elsam's Little Pixie, Tom Thumb and Little Gem, splendid types for any season, and aware large coarse Cabbages are in demand in large towns, but my sole concern is Cabbage for home use and for daily supplies, and here, I think, the huge kinds should not find a place, as they exhaust the soil too much and are so long in coming to maturity. —W. I. M.

Potato Syon House Prolific.—This new Potato is worthy of the attention of all growers on the look-out for a really first-class variety. There are few among the many new sorts, which have of late years been distributed, that compare so many sterling qualities. The tubers are very handsome, well-shaped, of good size, with small eyes and rough skin. As its name implies, it is indeed most prolific, and although one of the last to be lifted, there was not the faintest trace of disease. It is an excellent all-round sort and compares favourably with many Potatoes which have for years held the foremost positions. Regarding its value for the dinner-table, the quality is excellent, the flavour being all that could be desired. This variety received an award of merit

from the R.H.S., September, 1895, and this award has been confirmed by the fruit and vegetable committee again this year. This decided acquisition was raised by Mr. G. Wythes, Syon House Gardens.

The Potato disease.—I am sorry to say that the Potato disease is very prevalent in this district, all field varieties being equally badly affected. The only thing farmers can do is to live at once, as if left in the ground matters will only become worse. I think it would be wise for those who have plenty of spare outhouse room to store the tubers in these, covering lightly with straw or litter, so that an evaporation will be made occasionally. When clamped in the ordinary way, tubers in such seasons as these quickly affect each other, and wholesale rotting occurs. Good sound Potatoes will this season be looking after. In Lincolnshire, from the fact that much corn is still out, many orchards literally stripped of fruit by high winds, and the Potato disease rampant, the small holders with which that county abounds will suffer.—J. C., Novts.

STORING ONIONS.

It would be interesting to know what amount of frost Onions will stand without injury to their keeping afterwards. That they will withstand 2° or 3° without any ill results, if at the same time they are kept perfectly dry, is a well-known fact. Two seasons ago my supply of Onions having run short I had to purchase some, but which had at the same time been subjected to several degrees of frost for weeks together, and although these were apparently sound when bought, it was not long before they commenced to decay. I know there is an impression abroad that Onions will actually withstand practically speaking, an almost unlimited extent of frost, but I think this statement must be received with caution. If Onions are thoroughly well ripened and stored in a perfectly dry and cool store, they will keep until far on into the succeeding summer. In this garden I have an admirable Onion store, it being in a range of offices facing the north. It is perfectly dry and cool, frost being kept from entering by placing well-fitted shutters against the windows. That Onions will keep well in this structure may be judged from the fact that, although last winter and early spring were so mild and the succeeding summer so hot, quite a large quantity of Brown Globe perfectly sound was turned out in August when the structure was being cleaned so as to be in readiness for the present season's crop. A close and warm store is the worst possible. Far better in these cases rope the Onions and hang them up under the shelter of a dry, open shed, and if the frost is likely to be severe, cover them, they may be taken down, laid closely together on clean straw, and fully covered with like material. As the frost goes, then return them to their former position, when the cool and dry air playing about the bulbs will ensure their keeping thoroughly or as long as old Onions are required. Onions should be well ripened and sound this season, the early season favouring early sowing, with the result that the ripening was thorough and also allowed of their being harvested before the rains came. Thorough ripening is most essential to successful keeping.

A. YOUNG.

Potatoes—change of seed.—The results of a trial which I conducted during the past season on a stiff loam with respect to the value or otherwise of changing seed tubers from one soil to another may not perhaps, because of the weather experienced during the growing time, be regarded as conclusive, but so far it serves to show that change produced no beneficial results. I planted seven varieties, all fairly strong growers, tubers having grown last year on chalk, sand and bog soils. The results when the various varieties were lifted showed not an atom of difference in favour of one variety over another. Practically all were so alike in produce that there was nothing to choose

between them. I am fully aware that such results are diverse from what are generally looked for, there being strong bias in favour of change of seed. Having had to grow the same varieties for seed on the same soil for many years, I never had much faith in the change of seed theory. I have, however, a good deal of faith in the way seed tubers are stored during the winter, and if anyone wishes to make experiments of a similar nature, he should obtain the tubers at once from diverse soils, winter them, planting sets of the same size in each case and number, also giving to all just the same conditions. That is the way to put this matter of change of seed to a practical test.—A. D.

Disease in Potatoes.—I am not sure if the hastes often displayed in lifting late Potatoes is conducive to good keeping. I am aware there is a serious objection to leaving the tubers in the soil too long, and in certain seasons after much rain many kinds grow out so badly that there is

past season has been bad in respect to most root crops, and in rich soils the roots of early-sown Beet will be of an abnormal size and, in my opinion, almost worthless, as a root the size of Dell's Crimson is large enough for most purposes. Huge roots are mostly deficient in colour. Beetroot is much harder than is often thought. I am never in a hurry to lift it, and, no matter how well grown, if placed in a warm place flavour is soon affected. Those who have but little convenience for storing may with advantage clamp the roots under trees or on a north border, and will find them keep well. In severe weather it is an easy matter to give extra protection in the way of Bracken or litter. For years I stored the roots in a disused ice-house.—G. W.

Turnip-rooted Beet.—I note "A. D.'s" remarks (p. 291), and am not at one with him in the conclusions he draws as to the value of the Turnip-rooted Beets, as I find they require different treatment from that given the long-root-

GARDEN FLORA.

PLATE 1090.

DELPHINIUMS.

(WITH A COLOURED PLATE OF, 1, D. TRUE BLUE;
2, D. BEAUTY OF LANGPORT.)

DURING the past twenty years we have paid special attention to the cultivation of Delphiniums, and during that time they have improved in quality and increased in popularity. We collected from every source the best known varieties which were known at that date. We did not, however, rest content with the varieties which then existed, but took in hand regular and systematic fertilisation of the finest varieties, having in view richness and variety of colour in the sepals, the distinctiveness arising



Delphiniums in a midland garden.

a loss of quality, so that the grower must either lift the tubers or allow them to make a second growth. This year I have seen serious losses caused by too early lifting, as tubers quite sound when lifted have decayed badly in bulk, though properly handled and not heated in any way. Few can store thinly in dark, airy sheds or cellars; here there is less fear, as the tubers dry. I have come to the conclusion that, where there are large quantities it is best to lift at the proper season, as though some tubers decay in the soil, fewer are affected than when lifted early and placed in heaps. When the tubers are lifted at this season the worst of the disease is past, and there is less trouble, as well-matured tubers will keep.—W. S.

Storing Beet.—Few roots are sooner affected than Beet, and the value of a cool store is great, as, with care in lifting, good firm roots may be had till the new roots come in next season. The

long kinds and are more valuable in certain soils. I once had poor, stony land which prevented deep rooting crops thriving, and my plan was to make three sowings of this useful vegetable. By so doing I got roots all the year round, and, strange to say, of better quality than those grown in richer soil, which is the fault in many cases. I am inclined to think "A. D." would value this Beet if he only grew it in his part of the country as a very early or very late crop. From June to September, growth is too gross on certain soils, whereas sown in March for May supplies the quality is superior. The same remarks hold good in the autumn, as seed sown in autumn gives roots of medium size, and all one may desire as regards colour and quality. I have frequently noticed in dry summers the leaves of Beet soon droop, and if this happens the colour is poor. For early use the Turnip-rooted Beet is very useful if sown under glass and planted out.—W. I. M.

from large white centre petals, size of individual flower, and symmetry and length of flower-spike. The results astonished even ourselves, for we advanced, especially in point of size and in beauty of richness and colouring. In the year 1885 we noticed for the first time flowering amongst other new seedlings something which we had never before observed, viz., a white or creamy white variety of apparently exactly similar habit to the densely flowering hybrids surrounding it. We took great care to give this novelty plenty of space and attention, with the result that, having fertilised it with its own pollen we were successful in saving

* Drawn for THE GARDEN by H. G. Moon from flowers sent by Messrs. Kelway and Son, Langport. Lithographed and printed by J. L. Gottart, successor to Guillaume Severeyn.



DAHLIAE & DELPHINIUM
BY THE BOSTON SOCIETY OF ARTS



Delphinium Beauty of Langport.

seed from it. This variety is the one we now have, but of these only two turned out to be other than blue or purple varieties. However, we raised a fairly large batch of plants, we propagated from Beauty of Langport and

from the other two seedlings of the following year, one of which we named Primrose and the other Princess of Wales. From large batches of seedlings from these varieties we have since secured other white or cream-coloured kinds. The varieties appear quite fixed in character, but do not come true from seed, as 99 per cent. of the seedlings revert to the blue forms. The white Delphiniums are similar to the best of our blue-shaded kinds, but in foliage they differ somewhat in the extra gloss and metallic green of the leaves, which remind one of those of Aconitum Napellus. None of these white kinds have yet shown any trace of blue in the sepals, but the petals which form the eye are variously white, brown, yellowish brown or sulphur-coloured, as in the blue and purple varieties.

Any garden soil suits Delphiniums and they thrive in almost any position. They may be planted at any time of the year, provided that in summer the plants are not too forward, and that they can be well watered in if the weather be dry. The soil should be deeply dug or trenched, the latter being preferable, and plenty of well-rotted manure should be added. Copious waterings in summer will be attended by increased size of spike and flower. Coal ashes strew over the crowns will protect the plants from slugs through winter and spring, and a succession of flowers may be expected from about the middle or end of May to early in the autumn. The effect of Delphiniums is exceedingly fine when they are either planted in lines as a background to a flower border or in groups of say three plants alternately with other tall herbaceous plants of contrasting hue. They should have a fair amount of room, from about 2½ feet to 3 feet apart, and look well arranged in beds with about this distance between each plant. The newer kinds far outshine most of the older varieties. No amount of liberal treatment will cause the smaller-flowered kinds of some years back to develop into the gorgeous hybrids of to-day. A very good and up-to-date selection is represented by the following:—

BEAUTY OF LANGPORT.—The new creamy white variety; yellow centre, semi-double.

PRIMROSE.—Another white variety with a yellow centre; single flowered.

PRINCESS OF WALES.—White, black eye, single flowered.

ALBERT EDWARD.—A handsome deep plum colour, with violet edges to the sepals, black eye, semi-double.

MONUMENT.—A shade of lavender with a blue centre, semi-double; a very symmetrical spike.

MR. CROMPTON ROBERTS. has a ring of petals overlapping the sepals, the former rich purple, the latter brilliant violet-blue, the eye brown, barred with black; semi-double.

THE REV. J. STUBBS.—Of an attractive light blue colour, tinged with lavender-pink, the centre or eye brown; semi-double.

SARA.—Sky-blue, veined rose, white centre, exceedingly handsome, well-formed spike.

DR. MEAD.—Violet, inner petals rose and lavender.

KING OF DELPHINIUMS.—Gentian-blue and plum, white eye, semi-double; an imposing variety.

TRIUMPH.—Violet, inner petals plum, semi-double.

WINSNER.—Blue, inner petals lavender, semi-double.

BRITANNIA.—Deep blue, with a large white eye.

TRUE BLUE.—Brilliant blue, with a black centre, single-flowered.

KELWAY & SON.
Lancaster.

THE WEEK'S WORK.

KITCHEN GARDEN.

CELERY.—I always put off the earthing of Celery as long as I dare, and until November is in only earth sufficient to supply the demands. Having a big breadth with which to deal I take from this date every advantage of fine weather when the soil is dry enough to crumble and the plants free from hanging wet to bring the earthing of the main crop to a close. Growth has been vigorous during the past few weeks, and with rows only 4 feet asunder, it will be necessary to go deep down to find sufficient soil for banking up almost to the tips of the leaves, this being the method which I favour to keep the plants from injury by frost or by excessive wet. Exclusion of light and consequent reduction of the liability to rapid thaws are the most important factors in the former case, and bringing the ridge to a sharp pitch does all that is necessary in the way of throwing off heavy rains. Given proper ridging and suitable protection, Celery proves as hardy as any vegetable that is grown, and I have never yet found the necessity for protection by boards, Bracken, straw, or any other of the generally recommended protective materials, only in the case of a severe frost setting in is it advisable to use anything of the sort, and then it should only be used as a means of keeping the frost out of the ground on that portion of the crop which will come in for use during the time the frost lasts, the bulk being allowed to take its chance without covering. During the long frost of January and February, 1853, when the thermometer fell more than once to 7° below zero, the Celery here was entirely unprotected except for the soil banked round it, but I was able to dig excellent sticks until the middle of April, while some near by which was protected during the frost rotted directly; the thaw came, as drip then found its way into the hearts from the protective material. Of course with boards nailed together at right angles and placed over the rows, this would not have happened, but I hold that these are a needless expense, and that the Celery is equally safe without anything of the sort. For home supply during a frost it is much the best way to lift and store in a shed a goodly number of plants, packing them closely together to prevent anything in the shape of drying or flagging. In completing the work of ridging it is best to go far back over the plants and give each a tie with manure, coarse sand substitute, near the top, keeping the outer side straight and arranged uniformly round the inner leaf, and then bank up with finely broken soil which must be well closed in round each plant, leaving each ridge in an inverted V-shape with only just the tips of the leaves peeping out at the top. The soil should be packed over with the spade as the work proceeds, this will prevent it from running back into the trench, and also give it a smooth surface from which rain will run off as it falls. It is a mistake to leave any of the main leaf stems exposed when finally earthing up any Celery which is expected to stand well into the winter, as these are sure to succumb to frost, and the decay will be carried downwards to the edible portion of the plants. Another mistake far too common is finishing off the ridge with a table-top, as this cannot throw off the rains, and the soil close to the plants gets sodden. Ridges are frequently finished off in this way or with the pitch not sufficiently sharp, when the rows are given a considerable intervening space, and some gardeners follow this plan from an idea that a big body of soil is necessary to keep out frost, but I find, in practice, that it has no advantages, and some disadvantages as already shown. If worms

or slugs are plentiful it may be advisable to dust round the plants with soot preparatory to earthing them, but I advise this only in the case of exceptionally bad cases, as heavy doses of soot are liable to spoil the flavour. Lime is sometimes recommended for the purpose, but is next to useless in the limited quantities which may be used, as the slackening which takes place directly it comes into contact with damp soil destroys its virtues.

MUSHROOMS.—Recent long-continued wet weather has made the collection of manure in good condition for Mushroom beds somewhat difficult where this operation has to be carried on in the open. It is in such cases that the method which I recommended some months back of allowing the manure to remain in the straw until sufficient has accumulated to form a good bed is especially valuable, as such manure seldom gets in a sodden state and can be soon brought into proper condition by the usual means of heaping and turning, the only thing necessary being to turn the manure daily instead of at intervals of two or three days, until it is fit for use. Beds made up from this time onwards are of the greatest importance, as they will come into bearing during the dull season when most vegetables are scarce. Where there is no Mushroom house proper it will be necessary to make up the beds here within doors, or from heat and sun, such a place may be found in most gardens near the boiler or in sheds at the back of stoves or forcing houses. One of the most successful private growers of Mushrooms I know makes many beds in stokeholes, but these stokeholes are large ones, well below the ground level, and so arranged that the beds are well away from the fire-place and from draught. Not hard and fast rule as to temperatures can be laid down, Mushrooms being very accommodating in this matter, but it is well to try and get a minimum temperature of 55°, as this will bring the beds into bearing within a reasonable period, say from six to eight weeks, while there is no dependence on the time taken by those in a lower temperature. Spawns when the heat of the bed is on the down grade and has reached somewhere about 90°, and do not be too sparing of spawn nor break it into pieces smaller than about the size of large hen's eggs. Beds made about 15 inches deep at the back come into bearing quicker and last longer than do shallower ones, and with plenty of manure at hand this is the depth I recommend. See that the bed is made firm, and close the manure well in round each lump of spawn. Soil over with sweet loam or ordinary garden soil directly is certain that there will be no further tendency to an internal rise of temperature. All beds in exposed places or fluctuating temperatures should be well covered with two or three thicknesses of mats. Set traps of scooped out Potatoes or pots lined with Moss to catch all woodlice in the neighbourhood of the beds, as it is these insects, probably, to give these great full luscious until the crop is showing, for they will be sure to attack and spoil the tiny button directly they appear. Gather all Mushrooms that are fit on bearing beds daily, wrenching them bodily out and filling up the holes so made with soil. This method may spoil a few of the smaller buttons on each clump, but is the most economical in the long run, as old stems when allowed to remain appear to paralyse the whole clump and prevent any further development. Take advantage of any wholesale clearance of a crop to water with tepid water through a fine rose any bed which appears at all dry. A handful of salt or half a gallon of strong draining to each big pot of water will have a beneficial effect.

CABBAGES.—A further planting of Cabbages may be made from the second autumn sowing, following similar lines to those recommended for the earlier lot. It is just possible that the smaller plants will be more successful than the larger ones this year, the latter having grown freely and gone into aatty state may succumb to severe frost if we get it. At present they look well and of excellent colour, but spare ground being picked and planted quickly done, it is wise to provide for contingencies, and should more ground

be occupied now with Cabbages than can be afforded them eventually, it is easy to do away with the least likely lot later on in time to utilise the ground for other crops.

SUNDRIES.—Winter Cucumbers should have frequent attention to the lateral growth which will be forming, tying this out to the wires and stopping where requisite. Little, if any, syringing will now be needed, as this has a tendency to produce fubby leaves, and it is better to keep down insect pests by vaporising or fumigating than to trust too much to the syringe. Look well after Tomato plants still in bloom, and do all possible towards getting a good set before the end of the month, tapping the bunches at midday when the weather is bright and keeping a dry, airy, and buoyant atmosphere at all times. There will be but little chance of obtaining a set of fruit during the next month or two. Water carefully, but on no account allow the plants to become dry, as this will prevent the fruits from swelling away kindly. Where the earliest Rhubarb is forced on the ground where growth it will be time collected leaves for mixing with the soil where wanted, in forcing beds for such a tall-growing subject as Rhubarb swallows up a considerable amount of forcing material, and this should always consist largely of leaves, which render the bed easy to manage as regards temperature.

J. C. TALLACK.

FRUIT UNDER GLASS.

FOR VINES.—Where Grapes are required early in the season it will be necessary to commence forcing. If pot Vines have been prepared as previously advised they may now be taken into the house where it is intended they are to ripen their fruit. It is not actually necessary that bottom heat be afforded them, but if this can be supplied so much the better, as root action will be more active during the dull days, therefore a freer circulation of sap. There is, however, always a danger of having the young active roots burnt when too near the hot water pipes, but if provision be made against this a more uniform heat may be maintained about the roots than is the case when the pots are either stood on slates or plunged in leaves. Unless the canes are well ripened there is a difficulty in getting them to break regularly, for be it remembered they are being forced into growth at least four months before their regular time. If the soil about their roots be warmed to about 55° the sap will commence to circulate, so that root action will be a little in advance of the growth. It is when heat is applied to the house while the soil at the roots is of a lower temperature that the sap fails to respond, hence the weakly growth at first. Having placed the pots in position tie the canes down along the rows of vines in a horizontal manner. There should be at least 3 inches from each other, so that when the buds begin to push no injury may be done to any of them when it becomes necessary to tie them up to the wires. Fill in all round the pots with leaves that a gentle heat may be generated to assist in swelling the buds. The house may be kept closed altogether in dull weather, but a little air should be admitted on bright sunny days to prevent the temperature running up too high, as when this happens undue excitement of the sap is caused and the buds break irregularly. Close watchfulness is needed, for when the buds begin to swell there should at all times be a circulation of air, but this should be so regulated that cold draughts never come into contact with the canes. Very little, if any water will be needed at the roots if the soil is fairly wet at the time the pots are taken indoors, but care must be exercised in this respect or the roots at the bottom of the pots may suffer from lack of moisture, especially where there are hot-water pipes beneath.

PERMANENT VINES.—Where it is contemplated destroying a batch of Vines next season it is advisable, if possible, to take a crop first, for if the Vines are started now, the Grapes should be ripe sufficiently early to admit of a new border being

made, and young Vines planted to take the place of the old' ones, with every prospect of their growing strong enough to fruit the following season. Where Vines are forced very hard they will not continue to give satisfactory crops for many years, therefore it is always well to have a supply of young canes in readiness to take their places, that there may be no blanks. Vines of this description will start more readily into growth than young ones in pots, they having been previously forced. If the borders of such are outside they should be covered with fermenting material to keep them warm, for unless root-action is secured, shanking is sure to take place, as there will not be sufficient sap to supply the needs of the plants.

LATE HOUSES.—Those in which ripe fruit is hanging must be well looked after, especially where the borders are outside, for with the amount of rain that has fallen, the soil must be thoroughly soaked. If a too moist atmosphere be maintained, the berries will be sure to crack, especially where the houses are situated in moist places where fogs are prevalent. It is well to have a gentle heat in the hot-water pipes, just sufficient to counteract the moisture in the external atmosphere, that no moisture settle on the berries. At the same time great care must be exercised, for if the temperature is kept too warm and dry, shrivelling will soon take place. Where Grapes are required to hang for a considerable time, too much pains cannot be exercised in keeping the houses at even a temperature as possible. Do not allow any dead leaves to lie about, and if a rotten berry present itself, at once remove it. Where the bunches have been placed in bags to protect them from wasps, these may now be removed, for if kept in them the air does not circulate freely amongst the berries, and if one gets damp, the others soon decay. Houses from which the crop has been cut should be thrown open, that the Vines may have a rest. When the leaves have fallen the rods should be pruned and the houses made clean in readiness for starting again.

PEACH HOUSES.—If Peaches have to be ripened in May, it will be necessary to prepare the first house for forcing. No stone fruit will stand much fire-heat till the fruit is set, therefore, where this have to be provided it is necessary to commence in time. Before doing so see that the house is thoroughly cleaned. All walls should be white-washed, the woodwork and glass washed down with soft soap water, the trees painted with some insecticide to rid them of any vermin and neatly tied in, after which the border should be slightly forked over and given a liberal watering. Where this has been done and properly attended, the house may be shut up and started early, for if under forcing takes place the buds are sure to drop before they expand. It is not wise to attempt forcing thus early unless the houses have previously been forced, as the trees will not have been sufficiently rested to cause the buds to swell without much fire-heat. Old trees that have been gradually forced for several years will readily respond to heat, but young ones that have only shed their leaves a short time require much more warmth to induce the sap to flow freely, and if this be given with undue haste it is seldom the blossoms expand. In forcing Peaches it should be borne in mind that naturally they bloom in a low temperature, and before root-action is very active, which is being rather cold. For this reason bottom-heat should never be applied when forcing, neither should the temperature be too high till the fruit commences to swell. Forty-five degrees at night, or even less when the weather is very cold, will be ample, but on warm nights the thermometer may be allowed to run up a few degrees without doing any harm. Sometimes during November we have bright sunshine with cold nights, at others it is dull and foggy, therefore the cultivator must be prepared for these sudden changes if he would have anything like an even temperature in his house.

PINES.—Any plants now ripening their fruit should be kept dry, for as there is less sun-heat the flavour will be much improved if only suffi-

cient water be given to keep the plants healthy. Those approaching the ripening period should occupy the warmest position in the house if there is any difference. As the days get shorter and the sun declines in power less water will be needed. At the same time, the plants must not be allowed to get too dry, otherwise they may start into fruit before they are required. It is only by carefully watching both the temperature and watering that the most satisfactory results are obtained. To overwater when plants are not in active growth would cause the roots to decay, while if they become too dry a check is given them in another way. The surplus stock may be taken off to see that there is no unusual heat present, for if this be allowed to make headway the plants never grow satisfactorily. If more plants have been rooted than there is room to winter without overcrowding, better throw the surplus stock away at once than spoil the others by causing them to become drawn.

H. C. PRINSEP.

ORCHARD AND FRUIT GARDEN.

PORTABLE ROOFS FOR FRUIT HOUSES.

WHILE fully appreciating the great improvement made in horticultural buildings generally during recent years, especially with those erected for the cultivation of Orchids and other plants, I have thought that the present style of building fruit houses is wrong, and causes a deal of labour and trouble to the grower, he being unable to carry out that which is most conducive to the health and vigour of Vines and other fruits under his charge, viz., full exposure after the crops are gathered. I allude to vineries and Peach houses not fitted with portable roof lights, which used to be more frequently seen. The three main points that may be advanced in recommending the continuous fixed roofs now so generally introduced are lightness, neatness, and cheapness, and of these probably the last carries most weight when estimates are furnished for the erection of new houses. It may be further urged that fruit is as well grown under such roofs at the present day as it was formerly when portable lights were more common. Granted; but I know for a fact that one of our largest and most successful fruit growers regrets that he cannot remove the roof lights from his fruit houses in autumn, so convinced is he of the benefit derived by Vines and other things from full exposure for a few weeks at that season. Nurserymen recognise the importance of this to thoroughly mature and rest their pot Vines which have been grown expressly for the production of early Grapes, and so, I believe, do most gardeners, who would be only too pleased to put it into practice would their houses admit of it being done. Although both Vines and Peach trees submit to forcing with the best results, and the same may continue for years to supply good crops of early fruit, they are, nevertheless, growing under unnatural conditions, and must sooner or later succumb to weakness. To assist such to meet this high-pressure system of growth, it is necessary that every means should be employed whereby they can receive both a long and thorough rest. Houses containing both Vines and Peach trees that are required for starting, say, at the new year, should not be used for storing tender plants which will require fire-heat at the first approach of autumn frosts. The earlier the lights can be removed and the longer they remain off the better, as such trees are easily excited, which may make all the difference between a good crop and a poor one. To illus-

trate this we have only to look back to early Peaches last spring. How general were the complaints then, not only of the buds dropping, but even the fruit after it had attained a considerable size and all was thought safe. What was this attributed to? In the cases which came under my notice the growers agreed that the trees were unduly excited by the exceptionally hot weather we experienced the previous September, following as it did several cool dull weeks. This undoubtedly was the forerunner of what followed, but I should say that had it been possible to have removed the roof lights at the time and fully exposed the trees, fewer failures would have been noticed, as the night dews and autumn rains do much to strengthen and invigorate fruit trees that have been subjected to several month's forcing. The main leaves increase in texture, and the fruit buds become stronger and more prominent while a touch or two of frost acts as a purifier, and insures the trees going into a perfectly dormant state.

When the roof lights cannot be removed and full ventilation is admitted at both top and bottom of the house, a keen draught is often the result, which if allowed to go on day and night for any length of time must seriously act upon the immature wood and foliage, particularly so if the borders are dry, and the roots suffering from the want of moisture. Portable lights as well as proving of advantage in the way explained above, mean a great saving of labour also, as syringing the foliage and watering borders are to a great extent dispensed with, which is no small matter where there are a number of houses and none too many men to attend to them. Again, as a set off against the extra cost the portable roofs entail when the houses are built, it must be remembered that they can be made to double duty as it were, as from August onwards they can be used most profitably in assisting later crops growing against walls, not only in hastening their ripening, but also in greatly improving the flavour of the fruit. During the last six weeks I have found them most valuable in protecting the latest varieties from the continuous rains and cold winds, and by such protection the fruit has attained the finest size, colour, and flavour, which it certainly would not have done in such inclement weather.

Goodwood.

R. PARKER.

Pear Princess.—This is a very fine peartree on the Quince. It greatly resembles Louise Bonne in appearance, but in my opinion surpasses it in point of flavour. I have it only as a cordon, and cannot therefore speak as to its merits when grown in any other form of tree. As a cordon I am quite satisfied with it, the fruits not only growing to a large size, but the flavour is really delicious. It is rather capricious as regards the time of ripening. I have had it at Christmas time in good condition. Last year it ripened earlier or some time during November, and this season, owing to some extent no doubt to the great heat, the fruits were ripe and over by the first week in October. On a warm soil it may be planted without the slightest misgiving as to its success.—S. E. P.

Vines in an upright position.—Some years ago I visited the immense Grape-growing establishment of the Messrs. Roche and Son, Hoddesdon, Herts, and there saw a huge vineyary, which was divided into three divisions, but by taking the latter away it was converted into one. It contained Black Alicante and Gros Colman Vines, these being grown, not in the usual way, but in a perfectly upright position, each Vine, if I remember right, being supported by a stout stake, as a Hollyhock might be. The Gros Colman was, anything but satisfactory so far as colour went, and I was informed by the foreman that the

Vines were to come out after the fruit was cut. The Alicante looked much better; in fact, the fruit was then (the first week in September) almost finished. The crop in this structure would, it was estimated, weigh 10 tons. It appears, however, that the extra amount of sunshine that season enabled the Alicante to colour well, but that since then, owing to less favourable seasons, and the fact that the foliage on the top part of the Vines unduly shaded the bunches on the lower, the crops have been less satisfactory, and the system has consequently been entirely abandoned. About a year after seeing these Vines I was shown a similar lot in the vineyard of Mr. Church at Beacon Ash, near Norwich. The Vines were, I think, only two years old and were all Alicante, colouring having only just commenced at the time of my visit. It would be interesting to know if these Vines are still in existence, or whether they failed after the first year or two. If planted far enough apart they might continue to thrive from year to year, but owing to the limited distance market growers are obliged to give in order to make it pay, a minimum amount of sunshine and light is all that can reach them.—J. CRAMWICK.

Pear Passé Colmar.—A good December Pear, and a variety that grows and crops well either as a bush or trained tree against a wall. I have had this variety in fine condition at Christmas in south Lincolnshire, the tree growing on an eastern aspect. Trained on a wall, the trees are very prolific, and there is a difference in size as well as in appearance in the fruits when compared with those gathered from bushes in the open garden. In the latter case the fruits are smaller and covered with a brown russet, while in the former they are large and clean, and seldom have any, or but few, patches of russet on them. On the whole, I am inclined to think that those gathered from bush trees are the more highly flavoured. Generally speaking, most Pears are more highly flavoured if they have russet skins. It succeeds better on the Quince than on the Pear. On the latter stock the roots are apt to get down into the subsoil, and when this occurs the fruits become gritty and worthless.—A. W.

Apple Grenadier.—This Apple is thought very highly of and is largely planted in some parts of Cheshire for market. The fact of its succeeding so far north stamps it at once as being a very hardy variety—a fact planters should make a note of; and I have also seen it in fine condition in Lincolnshire. It is a first-rate kind for growing in small gardens, as trees fruit freely in a small state, and where they have room for extension they make fine bushes and pyramids. As a standard I have had no experience with it, but the other day I saw a fine lot of healthy trees grown in this form, which proved that it must also grow well in this way. It is an early-ripening Apple, coming into use during September and lasting well into October. The fruits grow to a large size and are first-rate for cooking. It was given a first-class certificate at the Apple Congress in 1883.—S. E. P.

Plum Coe's Late Red.—“A. W.” (p. 263) rather under-estimates the merits of this very late and valuable Plum. It is medium-sized and not small; but of course Plum growers are familiar with the fact that the size of Plums is largely determined by their numbers as well as the character of the variety. The more fruit in a given area, the smaller as a rule, but under ordinary conditions as to cropping and culture, Coe's Late Red is quite up to medium size. As to quality, perhaps, few would call it first-rate as compared with the same raiser's Golden Drop. It is an excellent Plum either for cooking, preserving or dessert. It is a freestone with yellowish flesh, firm and juicy, with a sweet sprightly flavour. This Plum varies considerably in quality with the seasons. Site, soil and size and form of tree also affect the quality of this and other Plums. It does well as a cordon, a bush, or on walls, and as a standard also in warm localities and on walls on every aspect in the majority of

gardens, hanging frequently on cool walls until the end of November, especially when the latter are furnished with projecting copings, to assist in keeping the Plums dry. For a reliable late Plum on walls, notwithstanding the Monarch and Late Duke, one cannot well dispense with Coe's Late Red. No garden should be without one or more trees of Coe's Late Red or Coe's Golden Drop Plums, the latter without doubt the finest Plum in cultivation, and which can also be kept for months after it is ripe.—D. T. F.

AMATEURS' VINERIES.

MANY private gardeners are apt to leave too many bunches on their Grape Vines, but amateurs err to a still greater extent in this respect. I never miss an opportunity of impressing on the minds of the latter the evils of overcropping. I am sometimes asked what I consider a too heavy crop, and when, there-

Instead of being content with a bunch on every second lateral, or at the very least with one to every foot-run of rod, there were two bunches on many of the growths, and in all probability all that showed were left. Thanks to good attendance, this including plentiful supplies of water and liquid manure, the berries were larger than might have been expected, and the Black Hamburg seen in the foreground promised to ripen fairly well. Not so the Foster's Seedling observable at the other end, and, unless I am much mistaken, this would be poor in colour and quality. Mr. Sudbury did not appear greatly alarmed at my predictions of an early breakdown of his Vines, and says he shall start afresh when they are worn out.

W. I.

Cherry Kentish Red.—Before the Morellos come in the Kentish Red is the only variety suitable for cooking, as however good the Sweet



A amateur's viney at Hirstead, Essex. From a photograph sent by Mr. W. Iggleden.

fore, I saw the viney of which an illustration is here given, it occurred to me that this was too good an opportunity to be missed. The photograph very plainly shows what may safely be set down as an injuriously heavy crop. Market growers are noted for leaving exceptionally heavy crops on their Vines, but I never saw anything they have accomplished to equal Mr. Sudbury's achievement. It appears that this gentleman's Vines have only been planted about four years and have previously borne heavy crops. The varieties are Black Hamburg and Foster's Seedling. They were planted in a well-made border, in which ground bones were freely used, and are in an unheated house. So very thick were the bunches that they actually touched each other at places.

Cherries are for dessert, they are useless for puddings and tarts. I can therefore, bear out the high estimate “S. E. H.” (p. 263) gives for it. It is not, however, a case for me to settle, the Morello being the only variety used for settling. I have three or four large standards besides smaller trees, and they crop most profusely. I do not think it would be advisable to plant this variety largely in private gardens, two or three trees being quite sufficient.—A. Y. Willey Court.

Plum McLaughlin's Gage. This Plum is of excellent flavour. Its flavour, however, is not its only good quality, as a man might possess this particular quality yet not be worth growing being weakly or shy bearing. This Plum is not one of those, as it is a healthy grower and a free bearer. I have it growing in the open as a half-standard, and I have been particularly impressed with its

this season. Allowed to have its head the tree bears freely. Trees grown as so-called pyramids in the open never bear well on account of the hard cutting in they are annually subjected to. Under such treatment they take on a gross and unfruitful habit. The soil my trees are growing in is inclined to be heavy, and on the new red sandstone formation, consequently this may have something to do with its success. All Pears with me this season have fruited and ripened up splendidly. This has been quite an ideal Gage season, the tropical summer having suited them admirably.—A. YOUNG.

The best Red Currants.—There cannot be any question about the varieties of Red Currants being "a little mixed," and I am inclined with "W. I." (p. 264), that if the R.H.S. has not already initiated a trial of Currants, they ought to take this matter into hand. It is very evident that at present there are in great confusion, no other kind of fruit perhaps being so much so. The colour of the fruit perhaps is answerable for much of this, and what is more, superior cultivation on good soil, as it is well known how much the size of Red Currants is increased by free manuring. Anyone can soon test this by sowing a few trees apart and feeding them with liquid manure or other approved fertilisers. In this garden there is an excellent variety, which at one time was thought to be quite distinct. It is a very superior Red Currant. A trial would settle much of this confusion as to names, private growers sending trees to Chiswick as well as the trade.—A. YOUNG, *Wiley Court, Stourport.*

TWO OVER-RATED APPLES.

For several planting seasons past, I, in common with several other writers, have strongly recommended Ecklinville as one of the few cooking varieties that everybody ought to plant, market growers being particularly advised to cultivate it extensively. Judge then of my surprise when informed by an Essex fruit man, that he had a large collection and who also is a London merchant, that he had done wrong in recommending this variety. So poor an opinion did he form of it, that he would not plant any more trees "if they were given him," and he also contemplates heading back and re-grafting all the trees he now owns of it. No fault could be found with these trees. They are fairly robust, rarely fail to bear well, and were heavily laden with fine fruit when I saw them. What then is the trouble? The reply was to the point—"No market value to day." It appears that it is too soft, and if the sieves are heated—as they must be to sell readily—the fruit bruises badly. Buyers who are principally retailers also find that it soon becomes of a bad colour, even in the case of the fruit in the lower part of the sieves. Salesmen had hard work to get 1s. 6d. per half sieve for Ecklinville at a time when Stirling Castle sold readily at 2s. In the latter popular variety we have an Apple equally as easily grown, also cropping heavily, the fruit being large, well formed, and cooking admirably. It is therefore recommended by my friend for planting by all classes of growers in preference to Ecklinville. The other variety even more forcibly condemned by more than one Essex grower of experience is the Duchess of Oldenburg. No fault is found with the productiveness of this variety—in fact it is one of the most reliable in this respect, but it is considered "a miserably soft thing and no good." Salesmen say it has to be sold cheaply, or at 1s. 3d. per half sieve, while better varieties were fetching 9d. more. This was to have been the coster's Apple, but no coster of repute will buy it so long as other varieties are available. Duchess of Oldenburg is not good enough to sell as an eating variety, and shrinks badly when cooked.

Not so many years ago my Essex friends were of opinion that the Apples which sold the most readily were those suitable for either eating or cooking, such as the Duchess of Oldenburg, and if coloured, so much the better. They now state that Apples must be either "one thing or the

other." Eating varieties must not be large, and should either be yellow when ripe—Yellow Ingester and Summer Golden Pippin proving the most popular of that colour—or else red as possible, Red Queenberry, Worcester Pearmain, and Duchess Provost being regarded as most popular and therefore, profitable. Cooking Apples that are large, not too flat and green, and the most favour, and none more so than the Codlin family, including Kesswick, Manks, Lord Grosvenor, Potts' Seedling, and Lord Suffield, to which may be added Warner's King and Stirling Castle.

W. IGULDEN.

PLANTING PEACH TREES—SELECTION OF VARIETIES.

RESUMING my notes on this subject, the selection of varieties suitable for planting under glass next requires attention, and assuming that three houses will be planted in order to maintain an unbroken supply of fruit from the time the earliest are ready for gathering until the outdoor Peaches are ripe, the following will be found some of the best varieties in cultivation. To make the selection more comprehensive, I will divide the list into three classes, viz., early, mid-season and late. Taking early kinds first, Hale's Early, Alexander, Waterloo, Amsden June, Condor and Royal George are all good forcers, and they crop well. Condor will succeed the first four varieties named, with Royal George bringing up the rear. For second or mid-season kinds, Royal George, Stirling Castle (which is much like the preceding), Grossé Mignonne, Violette Hâtive, Crimson Galande, Dymond, Magdala, Belle Beauge, Noblesse and Bellergarde are some of the best. For late work, Princess of Wales, Barrington, Exquisite, Thames Bank, Sea Eagle, Gladstone, Nectarine and Walburton Admirable are all good reliable sorts, the three last named and Thames Bank being particularly rich flavoured when well cultivated. Although not my intention originally to do so, I give a list of Nectarines divided in the same way. The three earliest are Advance, Early Rivers and Lord Napier. As the next variety Cardinal will not be sent out until next year, I have not included it. For second early or mid-season sorts, Goldoni, Hindwick Seedling, Elrugo, Stanwick Elrugo, Dryden, Downton, Pitmaston Orange and Rivers' Orange are all reliable. For late crops, Spenser, Pine-apple, Humboldt and Victoria are the best.

In suitable localities, where much Peach growing under glass is carried on, it is generally the rule to hold a good stock of trees in reserve outdoors, and then a tree, or trees, as the case may be, is always ready to hand for lifting, either to fill up gaps or to plant new houses with, and a considerable gain in time is the result. Where, however, this cannot be carried out, either from adverse climatic conditions or other circumstances, the necessary number of trees must be purchased at a nursery, and they should be personally selected if many are required. When selecting avoid old "cut-backs," as maidens are preferable to these, and would prove far more satisfactory in the long run. I prefer two-year-old trees with good, clean, healthy-looking stocks, and such as seem likely to keep growing and keep pace with the scion. Stocks that are hide or bark-bound—evidence of which is seen by the scion overswelling the stock—should also be avoided, as likewise should any showing signs of gumming. When the trees are grown at home

LIFTING

may be done towards the middle or end of October, according to the season, and if carefully done, a full crop of fruit may be secured the first season. Trees procured from a distance cannot of course be lifted until the leaves drop, which takes place much earlier in some seasons than others. But, however, this should not delay the preliminary operations of border making and other work connected therewith. Lifting must be carefully done, and the larger the tree the greater need for vigilance in the matter. Supposing a tree with a spread of branches covering an area

of 100 square feet of wall space is to be lifted, it need hardly be stated that such a tree would possess an enormous root system, the majority of which it would be necessary to save. In such a case a trench should be opened out some six or eight feet from the wall and sufficiently deep to get under all the lowermost roots. Then the soil should be carefully worked away from among the roots until a ball of soil about three feet in diameter remains. With the aid of three or four digging forks the ball should be loosened and unseated, and then loaded on to a handbarrow, or into a strong mat, and the tree transferred to its new position as quickly as possible. Of course the tree must be unnailed and loosened from the wall previous to lifting, taking care to tie the branches together in such a manner that they will not be broken during transit. A hole large enough to enable every root to be laid out properly will have been dug in readiness, and as soon as the tree has been placed in position—after ascertaining that the hole is neither too shallow nor too deep, spread out the roots in all directions, and cover with some of the finest of the soil. The roots must not of course be laid out all at one time, but in the various layers of soil all their proper level. After the roots are all covered over give them a thorough watering, fasten the main branches provisionally to the trellis and then proceed with the lifting of another tree. This will give time for the water to pass through the mass of soil and also settle it firmly about the roots, and the finishing off can be done at the conclusion of the lifting. The same care should be exercised when planting trees procured from a nursery, and both these and the preceeling should have all mutilated portions of roots trimmed off or shortened back as the case may demand before planting. Established trees when planted in the manner indicated invariably succeed well afterwards, and a failure seldom occurs when proper precautions are taken.

A. W.

FIGS IN PLANT HOUSES.

MANY gardeners with small glass accommodation are debarred from trying their hand at Fig culture, from the idea that this fruit needs a house to itself, and will not bear satisfactorily associated with plants. But although both Vines and Peaches do indifferently in houses where a quantity of plants is also grown, mainly on account of too much moisture being present when the trees are in bloom, Figs, differing from these two fruits in their atmospheric requirements at that somewhat critical period, will not only grow freely, but fruit well, too, in intermediate houses and cool greenhouses provided a sufficiently light position be afforded them and ordinary cultural details be attended to. I do not altogether agree with the plan, sometimes recommended, of growing Figs in plant houses containing trees, such as the back wall, as although the size may be of moderate height only, it is sure to hinder the sun from shining on the wall with sufficient power to insure healthy, fruitful growth. Even when Figs are planted on the back walls of vineies, and the trellis supporting the Vines is cut short at some 2 feet or 3 feet from the top of the roof glass, in order, as the cultivator thinks, by the admission of light and sunshine, to secure a maximum crop of Figs, we find in more instances than not a half barren condition, the majority and best of the fruit being found at the top of the wall, where growth is made in the full glare of the sun. My advice is to allow the stage to extend as far up the house as possible, so as to accommodate plenty of plants, and to utilise the two lights immediately over the pathways at each end of the house for growing Figs, fixing an ordinary trellis for training the trees to. In this case a border is not necessary, the trees doing well and remaining fruitful for a great number of years if planted in slate boxes, 3 feet 6 inches in length, 2 feet 6 inches in depth, and the same in width, providing 6 inches of drainage and planting in a good holding loam with a sixth part old mortar rubbish and a sprinkling of bone-meal. The slate

boxes must rest on strong iron supports opposite the front lights. In such a limited area all the roots formerly are fibrous, and no rank growth and disappointment year after year, as is often the case with border trees, need be apprehended. Negro Largo and that shy, but grand variety, Castle Kennedy, do well treated in this way. I have one large tree of Brown Turkey which is planted in a small brick pit at the back of the house, the growth being trained up the back wall and down the roof to the front, but then it took several years for the tree to reach the top of the wall, whereas, if planted in front as described, well-matured, fruitful wood is generally formed the first year. I have planted in boxes and trained up a trellis under the two end lights of an old greenhouse, which, being filled with Azaleas and Camellias, is kept quite cool—one each of Brown Turkey and White Marseilles. The former ripens its fruit in August, and the latter—which under ordinary border treatment is often gross in growth and difficult to fruit—follows it from the middle to the end of September. If the roots are well supplied with moisture when the trees are esta-

though cordons produce the largest fruit. The season is given as October, but this year I shall not have any fruits left for that date. "A. W." (p. 245) notes the value of this variety, and I agree with him. Bush culture is advisable, as one gets a fair crop yearly, and of better flavour. My cordon trees of this variety also do well, but the fruits lack the flavour of those more exposed. In what may be termed a poor soil it is one of the most reliable kinds I grow.—L. M.

Pear Knight's Monarch.—My experience is much the same as Mr. Crawford's (p. 304) with regard to the above Pear. I have some old bush trees that crop very freely, but the fruit generally falls early. Those stored always ripen and are of good flavour. The soil here is light, which I thought may have been the cause of the fruit falling, as I have seen it stand well in heavier soils.—J. Hill, *Brahham*.

— I have this Pear both on a wall and as a pyramid. It is a first-rate bearer as a pyramid, but the ripening is uncertain in some seasons. This year the fruit was quite ripe and very juicy



Water garden at Castle Marthy, Co. Cork. From a photograph sent by
Mr. W. M. Smith, Clarence Lodge, St. Luke's, Cork.

blished, and when bearing freely mulched and stimulated, few failures will have to be recorded, as the moderate amount of air during the earlier part of the year, and the increased supply as the season advances, needful for the inmates of both intermediate and cool plant houses, suits the Fig also. There are few gardens, indeed, where there are sufficient Fig houses to ensure a constant supply of fruit from, say, May to October, even if a second crop be taken from the trees; but by a little strategem, and utilising vacant spaces in plant and other houses, it may be easily accom-

plished. — J. CRAWFORD.

Pea Jersey Gratioli.—I have never had this variety so good for many years as it is this season, and though much earlier than usual the flavour has been very good, and fruits from bush trees have been of first-class quality. I am aware in certain seasons this Pear does not have the good character described above, as I have had it somewhat gritty, but this year the fruits are melting and very richly flavoured. In a light soil resting on gravel I get fruits of fair size on pyramid trees, and it is these latter which have the best flavour,

by the middle of October. I always defer gathering as late as possible. As soon as the fruits begin to fall off they must be at once gathered, as they grow, unless thinned, in clusters of four or five together, and being very short in their stems they support each other. As soon as one falls the rest are more liable to break off by their own weight. I have grown very fine fruit on the pyramids, but the trees, being on the Pear stock, require occasional root pruning to make them more prolific.—JOHN GARLAND, *Killerton, Exeter*.

— On page 304 information is asked respecting the premature dropping and the general quality of this Pear when grown as an espalier or pyramid. In the latter form I have no experience of it, but several old trees growing in the espalier form usually crop very regularly here, but many of the fruits are too small to be of any use, which fault, added to that of the greater part of them falling from the trees before they reach maturity, and consequently shrivelling instead of ripening afterwards, renders the variety of little value. It was formerly grown here upon walls, but the reasons mentioned and the fact that it

comes into use at a time when there are many finer and more certain sorts in season, have led to its being discarded.—JAMES DAY, *Galloway House N.B.*

Cleaning Walnuts.—The plan recommended by "J. C." to clean Walnuts is right as far as it goes, but I find it best to put some dry sawdust in the bag with the Nuts and then jostle in the way he suggests, turning them out into a sieve to sift the sawdust from the Nuts, which will then be found quite clean and dry. It is not a good plan to dry them in the sun.—J. N.

OPEN-AIR VINES.

THESE are very much neglected, now that glass is so cheap, and it is rare to find them in the flourishing condition one used to see them some thirty years ago. No one appears to take up the cause of open-air Vines, and the specimens one generally finds on cottage walls covered with mildewed bunches only help to deepen the conviction that no good can come of any attempt to improve on the present hopeless position. During the present year I happened to be in a Suffolk village where one of the oldest inhabitants had been noted for his open-air Grapes for at least half a century. I was considerably surprised to find that his walls were clothed from base to summit, not only with fine healthy foliage but with splendid bunches of Grapes on every shoot; in fact I have never seen such a weight of Grapes on a given space of wall before or since. The following is briefly the routine of culture that ended in such excellent results year after year. At the winter pruning, usually done in December, all the old wood is cut clean away the same as it is in a Raspberry plantation, simply shortening, and securely fastening the young rods in position. The border for about 4 feet from the base of the wall is lightly forked over and a good coat of manure spread on the surface. It is left in this condition until active growth commences in spring, when the young vigorous rods push out two or three shoots from each joint. These are reduced to one, and directly the bunches are visible the shoots are stopped at one joint beyond the first bunch; terminals as well as side shoots are treated the same, and one good shoot is selected as near to the base as possible for growing on. This rod is carefully trained in and fastened to the wall until it has attained the desired length, when it is stopped, and all laterals kept closely pinched in during the season, in fact the culture is exactly similar to that of a well cared for vine. Thinning of bunches and berries follows. Thinning of bunches and berries is performed with as great care as in vines, having regard to the size that the hardiest kinds of Grapes attain, but it would surprise many to find what bunches, even the Sweetwater and Foster's Seedling will finish off when well cared for, while Black Hamburgh and Black Cluster carry very handsome bunches. After thinning, liquid manure is given freely up to the time the colouring commences. Mildew and other evils rarely appear.

JAMES GROOM.

CASTLE MARTYR.

CASTLE MARTYR, the seat of the Earl of Shannon, is situated about 20 miles east of the city of Cork, and has for the past century been famed for its gardens and pinetum. The grandfather of the present owner devoted much of his time and money in improving the estate, especially around the old castle and deer park, planting thousands of ornamental trees and shrubs. Every plant in his time worth growing was bought not considering the cost. All kinds of cone-bearing trees do remarkably well. Araucarias were planted by the hundred, and are now giants in the pinetum. They for many years have borne fertile seeds, which in their turn have made fine specimens. Most other species of coniferae and shrubs do equally

well. Like many Irish gardens, Castle Martyr has for some years been sadly neglected, but sufficient remains to show what a picturesque old place it is.

W. O.

SOCIETIES AND EXHIBITIONS

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 27.

This exhibition was much smaller than usual, but throughout the show the quality was very high. Chrysanthemums and Orchids were the principal flowers shown, choice specimens of both these charming and popular flowers being in great abundance. In a small group of Orchids from the Holloway Nurseries two plants of the strikingly handsome *Oncidium Forbesii* were conspicuous. In a showy group of beautiful Orchids from Upper Clapton Cattleyas in great variety were noticeable. A large collection from Mr. R. J. Measures consisted of a fine plant of *Oncidium macranthrum* and a well-flowered example of *Cypripedium Henry Gravae*, a very charming softly tinted variety. Cattleya *Dowiana aurea* was plentiful in a group of choice varieties from the Royal Exotic Nurseries. In the group from St. Albans there was a plant of *Odontoglossum bicolorum album*, a very lovely flower with light chocolate-coloured petals and pure white lip. Swainson's Cattleya *labiata* (Sander's type) was also admirably shown. From the Earlswood Nurseries came Chrysanthemums, notably Calvat's Australian Gold. A dazzlingly brilliant group of *Pelargonium* (winter-blooming zonals) came from the Royal Gardens, Windsor; more Chrysanthemums from Messrs. Cannell and Sons, and handsome groups of stone plants of a decorative order from the Roupell Park Nurseries, Forest Hill, and Syon House. Only a very small quantity of fruit was shown, and this consisted of Grapes and Melons from Workshop, and a few excellent dishes of Apples and Pears from Syon House.

Orchid Committee.

At the commencement of the business of this committee, Mr. Gurney Fowler proposed and Mr. D. B. Crawshay seconded a resolution, which was carried unanimously, to the effect that the committee recommend that the council should authorise that paintings be made of all Orchids gaining certificates, and that these paintings be kept for the purpose of reference. It is thought that if the proposition is accepted it will effectively solve the very vexed question of the same variety appearing before the committee and sometimes obtaining a certificate under a different name.

First-class certificates were awarded to the following:—

CATTLEYA LABIATA (R. J. Measures' var.).—This is a distinct and lovely variety; the sepals and petals are pure white, of good form and substance, the lip pure white, much fringed in front, veined with distinct rose pink. The side lobes are white, shading to lemon-yellow at the base and in the throat. The colouring is unique and we have seen no Cattleya to approach it either in colour or distinctness. The plant was from an importation and first flowered two years ago, when it received an award of merit. From Mr. R. J. Measures.

CATTLEYA LE CZAGE.—This remarkable plant, a supposed natural hybrid between *C. labiata* var. *white granulata*, was introduced by a small batch of these two species from Permanente. It has a striking resemblance to *Cattleya Victoria Regina*. The sepals are rose, shaded with a bronzy tinge. The petals are about 4 inches long, brighter rose than the sepals and faintly shaded with the same bronzy tint. The lip is crimson-purple, margined with rose, the side lobes rose-purple shading to brown, which has a suffusion of yellow at the base. It is a desirable variety, having the combined characters of the two lovely species named. From Messrs. Linden, Brussels.

Awards of merit were adjudged to the following:—

CATTLEYA ELVINA.—A beautiful hybrid raised by Mr. Seden between Cattleya *Trianae* and *C. Schilleriana*. The sepals and petals are rose-purple in the centre, shading to pale rose at the edges; the lip open in front, partaking of the character of *C. Schilleriana* in shape, rich crimson-purple margined with white, the side lobes rose purple shading to white, and heavily suffused at the base with orange-yellow. It is one of the most distinct hybrids we have seen. From Messrs. Veitch and Sons.

CYPRISEUM REGINA, the result of crossing *C. Leeanum* and *C. Fairreianum*, is one of the most distinct and beautiful of the Fairreianum crosses; it is intermediate in character between *C. Arthurianum* and *C. Niobe*. The dorsal sepal is white at the tip, shading to green at the base, lined and spotted with dark brown; petals pale green, lined with dark brown; the lip green, suffused with brown. From Messrs. J. Veitch and Sons.

Botanical certificates were adjudged to *Restrepia antennifera*, a well-known large-flowered variety, yellow, heavily spotted with brown on the lower sepals, the dorsal sepal and petals white, spotted brown, and *Restrepia Falkenbryi*, a variety with smaller flowers, the lower portion of the flower yellow, thickly lined with reddish brown, and having a suffusion of crimson at the base of the outside of sepals, the upper sepal and petals purple, mottled and margined with white. Both from R. J. Measures.

Messrs. J. Veitch and Sons were awarded a gold medal for a large group, consisting principally of Cattleya *labiata autumnalis*. Cattleya *aurea* was also represented, as were many of the leading Cypripediums, prominent among them *C. canthariformis superbum*, *C. Arthurianum* and *C. tessellatum porphyreum* with two flowers, still very rare, and one of the most distinct. Amongst the numerous hybrid Cattleyas was *Laelia Cattleya Statteriana*, a cross between L. *Perrini* and *C. labiata*; sepals and petals delicate rose, the lip rich crimson-purple, this colour extending to the side lobes. The front of the throat has tracings on each side of a lighter shade of colour; it is a distinct and desirable variety. There was also a fine plant of Cattleya *Patricinae*, a natural hybrid between *C. guttata* and *C. Lowbridgei*. *Dendrobium Johnsonii*, a pale white plant and petals, lip white, the side lobes spotted and striped with violet-purple, and a fine plant of *Miltonia vexillaria superba*, with five spikes of flower, were also shown. A silver Flora medal was awarded to Mr. R. J. Measures, Cambridge Lodge, Camberwell, for a large group consisting principally of good forms of Cattleya *labiata autumnalis*.

One of the most striking amongst these was *C. labiata superba*, the sepals and petals remarkably broad, of a deep rose-purple colour, the lip rich crimson-purple, which extends well into the throat. *Coleogyne filigineum*, a grand specimen, had upwards of 100 expanded flowers. Amongst the numerous Cypripediums were Mrs. Chas. Canham with fifteen flowers, *C. Arthurianum* with eight flowers, a well-flowered plant of *C. tonsum*, *C. Henry Gravae*, and *C. Alenianum superbum*, certificated last year, several *Masdevallias* and *Restrepias*, and forms of *Laelia-Cattleya elegans* were well represented. Mr. T. Stater also received a silver Flora medal for a group consisting principally of *Cattleya aurea*. *Dendrophilus Phalaenopsis* was represented by upwards of a dozen spikes in a variety of colour. *Cypripedium callosum Fairreianum*, *C. Memoria Micosi*, like *C. Lathamianum* with a purple dorsal sepal; *Laelia-Cattleya Arnoldiana superba*, a remarkably large-flowered plant; *Stanhopea* with a variety of *L. C. Oliveri* recently certificated; a cut spike of *L. C. Johnsonii* and its variety *Ashtoniana* were also included. M. Georges Mantin was awarded a silver Banksian medal for a small group consisting of six plants of *Cattleya Mantii* (*C. Bowringiana* × *C. aures*) well flowered, *Laelia Behrensiiana*, sepals and petals rose, lip purple in front, shading to

rose, and having a little yellow at the base of the throat; and *Laelia balaiensis*, in which the flowers did not appear to differ from those of *L. balae*. A bronze Banksian medal was awarded to Mr. H. J. Elwes for a group consisting of interesting and botanical interest, amongst them were *Dendrobium*, *Apodictia*, sepals and petals creamy-white, lip cream-white in front shading to deep orange-yellow; *Cynchos Loddingei*, sepals and petals brown, lip greenish-white, mottled and spotted with dark brown; *Arundina chinensis*, with nine spikes of flower; *Saccobium bigibbum* with nine spikes, and numerous other varieties. Mr. F. Hardy sent Cattleya *Hardiana* (Wrigley's variety), a distinct group with mottled sepals and petals; *Pleione maculata alba* with two flowers; Cattleya *labiata alba*, pure white sepals and petals, lip white with orange-yellow disc; *Cattleya Massaniana* and numerous forms of *L. pumila*. Mr. C. J. Crossfield, Liverpool, sent a good form of Cattleya *labiata*.

Mr. W. C. Clarke sent a hybrid *Cypripedium* said to be a cross between *Argus Moensii* × *vexillarium*, but no trace of the latter parent could be discerned. It had a good deal of the character of *C. Youngianum*. Mr. C. J. Ingram sent *Cattleya callistoglossa* (Ingram's var.) and *Cattleya Gazzola*, referred to in report of last meeting. Mr. W. Lane, Ascot, sent a beautiful double plant of Cattleya *Bowringiana*, for which a cultural commendation was awarded. Sir W. M. Ashton, Down House, Blandford, sent Cattleya *laevis*, pale rose sepals and petals, lip purple in front, shading to yellow in the throat. It is a cross between *C. gigas* and *C. Lowbridgei*. Messrs. Hugh Low and Co. sent a small group consisting principally of Cattleya *labiata* and some good forms of *C. aures*. *Cynchos chlorochilon*, *Oncidium ornatissimum album* with five spikes, *Cypripedium Arthurianum*, and a new *Dendrobium* in the way of *D. Leeanum*. Messrs. B. S. Williams and Son sent a small group consisting principally of Cattleya *labiata*, *Oncidioides*, and *Cypripedium* in variety. Messrs. F. Sander and Co. showed a nice batch of Cattleya *labiata* which included two white forms with a suffusion of colouring on the lip named *The Bride* and *The Pearl*. A fine plant of *Dendrobium Johnsonii* with four spikes and *Asplenium Ashworthii*, a cross between *P. Mannii* and *P. maculatus*, sepals and petals golden-yellow lined with a brighter shade, the lip brown lined with the bright yellow of the petals, were also shown here.

Floral Committee.

A first-class certificate was awarded to—

SARRACENIA SANDERAE (Dr. Drummondia alba x S. Cooksoni), in which the white portion of the top of the pitcher and lid, as seen in S. Drummondii, are deeply veined with vinous purple; the growth is good and the habit all that one could desire. From Messrs. F. Sander and Co., St. Albans.

Awards of merit were voted to the following:—
CHEYSANTHEMUM ELISIE TEICHMANN (Japanese), of which a finely-grown plant not 3 feet in height was bearing as many flowers, which are large and full, slightly incurved, with long petals. The form is not at all formal, the colour being white with pale sulphur centre. From Mr. E. Sheas-

CHEYSANTHEMUM PRIDE OF EXMOORTH (Japanese).—A large and very full-flowered, the extremities of the petals tinted with rose blac, but otherwise white, with the centre of a pale straw colour. From Mr. W. J. Godfrey, of Exmouth, and Messrs. H. Cannell and Sons, of Swanley.

CHEYSANTHEMUM MRS. ORONTZ TART (Japanese).—Very handsome variety, and an acquisition to the firm now on any board of cut blooms; the colour is a deep golden yellow, the petals, long and broad, being disposed in the way of those of Thunberg; it is of medium size. From Messrs. H. Cannell and Sons.

CHEYSANTHEMUM AUSTRALIAN GOLD (Calvat) (Japanese).—A distinct variety of large size, very full, and of good form; the petals rather narrow, but of extra length; the colour a pale golden yellow. It was shown both as plants and cut

blooms. From Mr. Wells, Earlswood, and Mr. W. J. Godfrey.

CHRYANTHEMUM. MRS. J. LEWIS (Japanese).—A remarkably fine *bow*-variety, of large size and the purest white; the petals broad, the build of the flowers being very massive and of great depth. From Messrs. H. Cannell and Sons and Mr. W. J. Godfrey.

CHYSANTHEMUM. MR. JAMES MURRAY (incurved). A very compact flower in the way of Empress Eugenie, but larger, fuller, and of much deeper colour. From Mr. R. Owen, Maidenhead.

NERINE FLEXUOSA MAJOR.—A very free-flowering variety of dwarf habit and with good trusses, the petals long and narrow, the colour rich shade of pink. From Sir Trevor Lawrence, Burford Lodge, Dorking (gardener, Mr. Bain).

A splendid group of Crotons came from Syon House and formed a very striking and beautiful feature on one side of the hall. All the plants were in fine condition, very healthy and highly coloured. Flamingo, Red, Tangerine, Mrs. Swan, Queen Victoria, Disraeli, and Mrs. Dorman were among the numerous notable plants (silver-gilt Banksian). Other good decorative material came from Messrs. John Peed and Sons, West Norwood, forming a pretty and tasteful group. Dracanas were good and well coloured (bronze Banksian). A handsome group of decorative stove plants was staged by Messrs. John Laing and Sons, Forest Hill. A few Orchids, Crotons, and Dracanas in good condition and well coloured were the principal contents of the group (silver Flora).

One of the most showy exhibits in the hall was a large collection of zonal Pelargoniums from Her Majesty the Queen, Royal Gardens, Windsor. The variety was large, the plants all dwarf, sturdy, with excellent foliage and handsome bushy flower-trusses. Some of the most attractive varieties were Barbigeat, a pleasing shade of light pink; Lady Reed, white, with salmon centre; Lady Russell, clear bright pink; White Lady, Luther de Mediac, rich mottled salmon; John Gibbons, vivid scarlet; La Bruant, a fine scarlet semi-double; and Marquis of Dufferin, rich purplish crimson (*silver Flora*). A collection of beautifully-bred Pernettyas in many shades of pink and red came from Mr. Anthony Waterer, Knaphill Nurseries, who also showed some beautiful specimens of the Scarlet Oak, which attracted considerable attention (bronze Banksian). A group of Nerines, some in the ordinary orange-yellow and some in colours was sent by Mr. H. J. Elwes, Colerbourne, Gloucester (silver Banksian). Some very fine Nericines were also shown by Sir Trevor Lawrence, the flower-trusses remarkably full, the colours soft and very pure. N. cinnabarinaria, a fine red; N. flexuosa major, soft rose-pink; and N. Meadowbanki, a vivid salmon, were perhaps the finest.

Several varieties of Chrysanthemums, new kinds, were shown by Messrs. H. Cannell and Sons, Swanley, Kent. The finest were Pride of Exmouth, a very lovely white Japanese, a full, shapely bloom; Mrs. J. Lewis, also a large pure white; Mrs. Oporto Tait, a fine golden yellow, with thick twisted petals and Robert Powell, a handsome flower, bronze and yellow. Chrysanthemums were admirably shown by Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey. The most conspicuous feature in a group of splendidly grown plants was Calvat's Australian Gold, a very handsome and showy Japanese variety of beautiful deep golden colour. Many of the plants bore blooms of a paler hue through having been unduly forced, but one or two flowers of the natural colour sufficed to show the exceeding beauty of this variety. John Shrimpton, a rich maroon; Mons. Lebon de L'Assomption, a very pleasing yellowish tint; Costa, Lord Justice, London, a beautifully shaped flower of soft rose lilac colour; and Mrs. Johnson, a small bronze-yellow incurved, grown as a bush plant, were also good (silver Banksian). Some very fine Chrysanthemum blooms were also shown by Mr. Godfrey, of Exmouth. The beautiful Australian Gold was in splendid condition. Pride of Exmouth, a very shapely lilac flower,

slightly hairy; La Garonne, a large ragged bloom, of soft dull lilac colour; and Antoinette, a very beautifully formed white, were also exceedingly good. Mr. Andrew Pears, Grove Bank, Isleworth, sent a large group of Chrysanthemums, many of them fine old varieties, well grown and well flowered (silver Banksian).

Fruit Committee.

This was one of the smallest meetings of the year. Seedling Apples were plentiful, Melons also, but of poor quality. Twenty-four nice-looking fruits of a Melon named Osborne, but much like Hero of Lockinge in every way, were sent by Mr. Crisp from Osborne Gardens, Workop. Considering the late period for Melons, they well deserved the silver Banksian medal awarded. The above Melon was also sent for a certificate by the same exhibitor, also a small fruit of similar appearance, but not netted. This was named Gatefield Hall. Mr. Crisp likewise staged three bunches of Golden Queen Grapes, excellent in berry and bunch and well finished. Pods of Vanilla were also staged by Mr. Crisp. Mr. Wythes, gardener to Earl Percy, Syon House, Brentford, showed a seedling Melon, Syon Favourite, but over-ripe. A new seedling Apple was sent by Mr. C. Stubbings, Brookside, Cambridge, but the committee considered it good Cox's Orange. From the same exhibitor was sent a very nice Grape—a Sweetwater. It is stated to be an excellent variety, and no particular as to growth were given, but the impression was that it was a valuable addition if such bushes could be grown on open walls. Mr. Crook, Fords Abbey Gardens, Chard, sent a seedling Apple of nice appearance, but lacking flavour. Some Apples also came from Mr. Dale, Askern Nurseries, Harrogate. Mr. G. Lee, Clevedon, sent a seedling Apple much like Col. Vaughan, very firm and sweet. A very pretty Apple, a cooking variety, somewhat like Wellington in shape, but of better appearance, was sent by Mr. Menzies, gardener to Mr. W. R. Banks, Kingston Lacy, Wimborne. The secretary staged three Pears, the result of growing three kinds on one shoot. The fruits were so much altered in flavour and character that it was difficult to tell them. Pitmaston Duchesses, Beurre Diel, and Emilie d'Heyst were the varieties grafted on Doyenne du Comice. The dwarf new variegated Celeriac was shown from the society's garden in fine condition, also a new red very dwarf Cabbage named Red Blad Black Short Stem. A new Celery, Barr's Self-blanching, a very dwarf distinct type with pink stalks, was also shown. This promises to be a good dwarf form. Its sturdy habit and thick stalks should make it useful.

For the Messrs. Veitch's prizes, Mr. Woodward, gardener to Mr. R. Leigh, Barham Court, Maidstone, was first with grand Doyenne du Comice grown on cordons, the same exhibitor being second with Beurre Superfine shown in fine condition. It is only fair to say that Mr. Wythes, Swan, was an easy second, with fine Doyenne du Comice, but equal in quality of this competition do not allow the same variety to get two awards. Woodward was first with Apples, staging an excellent dish of Cox's Orange, Mr. Herrin, Dromore Gardens, being a good second, staging Ribston. The other varieties of fruit staged on this occasion were Beurre de l'Assomption and Beurre Diel Pears and American Mother Apple.

The lecture on "Chrysanthemums" by Mr. Lees was read by the assistant secretary. This made such paper less interesting, as any points which might require more than passing notice cannot be discussed. The notes sent were concise and of much value to growers. At the commencement the lecturer stated he would principally go into culture. He noted the great strides which had taken place since the last R.H.S. conference at Chiswick, and briefly referred to the new kinds introduced since that date (1889). There has been a wonderful improvement in the Japanese section, as varieties introduced in 1889 were now rarely seen and some quite lost. An

1891 variety of great merit he only saw staged in one competition last year. The French raisers, notably M. Ernest Calvat, had sent out some very fine varieties, many of them, unfortunately, burdened with long names. In the incurred section little progress had been made, as varieties introduced thirty years ago were still good. He noted the value of the single kinds for decoration as they were most useful grown in small pots for grouping and other purposes. Few flowers lasted longer and none are more useful. The reflexed types have evidently been driven out of cultivation. The Anemone section deserved better treatment, and though they had been neglected, they were very pretty, and there were some really good kinds when well grown. He noted the value of early border varieties, which bloomed from August to November; indeed, were these grown, a handful of flowers could be gathered well into November after most of the hardy herbaceous plants were cut down by frost. In these days with so many new varieties continually coming to the front, it was difficult to know what to grow, as till a new kind was thoroughly proved no one was sure if it was a sufficient advance on older kinds. Our home raisers of these flowers had of late years given us a grand lot of flowers of sterling merit; indeed, no less than 100 new Japanese varieties were sent out last year. Out of this number, thirty-six got first-class certificates. He would like to see new Chrysanthemums judged by the R.H.S. new code of rules, as this would enlighten the intending grower as to the new variety's qualities. At times one found new kinds most difficult to grow. On the other hand, he advised a fair trial before condemning. One season was not enough, and one required to know the habit of growth and way to grow the plant. He advised propagation in the middle of December to the end of January, selecting the early kinds for this date. The value of sturdy cuttings should not be over-rated, as it was important to get sturdy plants from the start. The compost should be light or sandy soil, coarse sand and leaf mould, inserting the cuttings into small pots in a temperature of 45° or 50° in a frame close to the glass. They root in about four weeks, and as roots increase, give more air, clamp over the tops daily, and repot in a compost of loam three parts, with sharp sand and leaf-soil. Replace in same house and temperature and grow on, avoiding draughts and watering sparingly till growth increases. At the next potting use more loam and less leaf-mould and sand, and in all cases first potting is essential. In giving water care should be taken that it is not given in driplets, as a thorough soaking is necessary at all times. In reference to pinching or stopping, much depended upon the variety. He considered more attention to this point in the spring as important to the exhibitor as taking the buds. He went into the various modes of growth. Late August buds do not expand freely; on the other hand, too early buds were failures in many cases. He also went at length into the peculiarities of several kinds, and the necessity of bud selection at the right moment, naming August 15 as a date many kinds could be relied upon. In the gross-growing Etoile de Lyon, the buds, if taken in the earlier date in August, give coarse flowers of bad quality. The middle of May was a good time for commencing repotting, and he advised 10-inch pots for the large kinds, 8-inch for others, it being important to have roots in plenty before repotting. For the final shift, more manure could be given, the soil consisting of three parts heavy loam to one of leaf soil, decayed horse manure and bone meal, with a portion of old mortar rubble added to keep the soil open. Soot or fertilisers he did not advise; these could be used later in a liquid state or as a top-dressing. Firm potting was most important, and sufficient space should be left to allow of surface dressings. Plants should be stoned in rows 5 feet apart, facing north and south. Feeding should begin the third week in July, and he advised change of food weekly. He liked cow manure and soot water, condemning overfeeding with rich fertilisers, as this caused damping of

blooms. Incurred types could be fed longer than Japanese, but given less up to a certain stage. He housed in the middle of September or a little later, and advised a little warmth to open the buds and check damping. He also dealt in a clear manner with the various diseases Chrysanthemums are subject to.

NATIONAL CHRYSANTHEMUM SOCIETY.

A very busy and largely attended meeting of the general committee of this society was held on Monday evening last at Anderton's Hotel, Fleet Street, Mr. B. Wynne occupying the chair. After reading the minutes of the former meeting and saying a word or two of welcome to the representatives of the affiliated societies, the secretary (Mr. Dean) read a rough financial statement, which was satisfactory in every particular, with the exception that a small additional sum is required for the special jubilee fund, which has not yet quite reached the amount that is necessary.

The report of the jubilee sub-committee was then rendered, most of the matter dealing with the preparations for the grand banquet to be held at the Hotel Metropole on the evening of the first day of the show. Sir Edwin Saunders will occupy the chair, supported, it is hoped, by Sir Trevor Lawrence (president of the R.H.S.), the Dean of Rochester, Mr. C. E. Sheas, Mr. C. C. Paine, and other influential gentlemen and friends of the society.

Mr. Harman-Payne, as foreign corresponding secretary, made a somewhat lengthy report in reference to the interest that the jubilee gathering is exciting abroad. A communication was read from the Christchurch (N.Z.) Chrysanthemum Society, announcing that that society would be represented at the conference by one of the vice-presidents (Miss M. M. Blyth), who would be able to give a very authentic account of Chrysanthemum cultivation in that colony. Another communication was read from the Cambridge (N.Z.) Society, with £1 ls. for the special jubilee fund. The secretary adds: "At this end of the globe great things are expected from the jubilee meetings, and the reports thereof are eagerly waited for." The secretary of the French N.C.S., who has given publicity to the English society's jubilee circular in the new publication, "Le Chrysanthème," expressed satisfaction at the three great National Chrysanthemum Societies of America, France, and England being brought into close connection by Mr. Payne, and requested his name to be placed on the list of members so that the union might be still closer. M. Rivoire's name was therefore included in the list. A further item of interest in the foreign department was the reading of the letter announcing the offer of the American Chrysanthemum Society's gold medal for competition already alluded to in these columns last week. Mr. Payne then in the capacity of secretary to the cataloguing committee reported upon the completion of the work, and briefly reviewed some of the more important alterations. It was proposed and seconded that the thirty experts who sent in returns from which the work had been compiled should receive a hearty vote of thanks for their assistance, and that each should also be presented with a copy. Before concluding, Mr. Payne said that he and several other members of the society hoped about the middle of November to make a short tour round Belgium and the north of France, and to visit some of the leading exhibitions and growers there. It was resolved that any members finding it convenient to accompany him should form an official delegation to such foreign shows as they might visit.

New members were elected, bringing the total for the year up to 167, and the Launceston Fruit and Chrysanthemum Society was admitted in affiliation. The members of the catalogue revision committee were awarded medals for their services in producing the new edition.

On Wednesday last the floral committee of this society held a meeting at the Royal Aquarium

Westminster, Mr. Harman-Payne presiding. Exhibits were sent from Messrs. Cannell and Sons, Mr. E. Beckett, Mr. C. Lawton, Mr. T. S. Ware, Mr. W. Seward, Mr. W. J. Godfrey, Mr. C. Gibson, Mr. R. Owen, Mr. W. Wells, Mr. H. Shoe Smith, Mr. Norman Davis, and also from a French exhibitor, M. Quétier. There were some excellent blooms staged, the quality generally being of a very high order of merit.

First-class certificates were awarded to the following:

ROYAL SOVEREIGN. — A very large, golden yellow Japanese, with rather medium florets, grooved and deeply veined, and of great length, reverse waxy yellow. A noble and massive looking bloom. Sent by Mr. E. Beckett.

Mrs. J. M. LEWIS. — A seedling raised by Mr. Ernest Calvat, and shown by him last year. The present blooms were staged by Messrs. Cannell; they are of the Japanese type, big and solid. The florets are broad, curly, and intermingling; colour pure white.

ASTERIA. — A colonial seedling of gigantic proportions. It is a massive Japanese incurved, with broad, heavily-grooved florets; the colour is a dull purple-amaranth and the reverse silvery. Blooms were staged by several exhibitors, but Mr. W. Wells secured the award.

NATHAN SMITH'S WHITE. — A Japanese of good size with notched florets of medium width. Colour pure white. Shown by Mr. Norman Davis.

MODESTO. — Another magnificent Japanese in curved, of great depth of build. A big, solid-looking flower with grooved florets, boldly in curving, the colour a very pale shade of rich golden yellow. From Mr. N. Davis.

WAVE KING. — Thin like the two preceding, of American origin. It is a Japanese incurved, with early pointed florets. Colour pure white. Also shown by Mr. N. Davis.

JOHN NEVILLE. — A Japanese with very long florets, which are twisted and drooping. It is a fine distinct novelty. Colour rich reddish carmine, with reverse of deep old gold. Exhibited by Mr. W. Seward.

GEORGE SEWARD. — Another very fine distinct Japanese having long drooping florets; colour a very beautiful shade of golden bronze, streaked carmine, reverse old gold. Staged by Mr. W. Seward.

Among other interesting novelties was *Beauty of Framfield*, a very distinct single-flowered Japanese variety, with long flat florets of a rich shade of velvety crimson. A. H. Wood, a pale yellow sport from Primrose League, was large and spreading. Robert Powell, a big, solid, incurved Japanese, colour golden bronze reverse, inside carmine-chestnut, was very fine; so, too, was Ernest Cannell, of ordinary incurved form, full and double; colour pale ochre-yellow. The committee wished to see again Thomas Bevan, a sport from Mrs. Airdrie. Several others were reported as promising novelties, viz., Mrs. Orpwood Tait, Eva Knowles, La Garonne, Belle Mauve, Elthorne Beauty and May Neville. A large deep flower called *La Perle d'Algérie* was staged. It is in form somewhat similar to a white Guernsey Nugget. This committee wished to see again M. Quétier sent from France three bluish pale yellow sport from the hairy variety *Enfant des deux Mondes*. The conditions under which it had been grown did not enable the committee to judge of its merits.

The weather in West Herts. — Another cold week, and the third in succession; indeed, there has not been a single unseasonably warm day since the 10th inst., and only two warm nights during the same period. On the night preceding the 28th the exposed thermometer showed 9° of frost, making this the coldest night as yet this autumn. At both 1 foot and 2 feet deep the ground is now about 3° colder than is reasonable. Only about half an inch of rain has fallen during the past week, bringing up the total for the present month, as far as it has gone 28th, to 3½ inches. There has lately been a

capital record of sunshine, the average daily duration for the week amounting to rather more than five hours. My Dahlias were entirely killed by the frost above mentioned, which occurred during the early morning of the 28th. This is three days earlier than the average date of their destruction in the previous eleven years, but five days later than last year.—E. M., *Berkhamsted*.

NOTES OF THE WEEK.

Galanthus nivalis octobreensis. — This interesting variety is flowering in the rock garden at Kew. It is interesting from the fact of its blooming in autumn, and nothing more—indeed, it is a poor flower by itself.

Nymphaea Lotus rubra. — This is the handsomest of the stove aquatics now in flower at Kew. The flowers are of large size, and their brilliant shade of colour most effective. Such handsome things are of considerable value at the present time.

Aster turbinellus. — This is one of the most graceful and elegant of all the Michaelmas Daisies, and one also that makes a charming pot plant when the cuttings are rooted in March or April for mixing with other things in the greenhouse in autumn.

Fruiting of the Pomegranate. — It may interest your correspondent from Devonshire to hear that the Pomegranate has fruited here three times in the last four years in Oxfordshire. It is on an open wall facing south, and has never had the slightest protection.—OXON.

Kniphofia Uvaria. — This dainty gem among the Torch Lilies is also one of the most profuse in its flowering, a most desirable characteristic. A fine tuft of it is in the Kew rock garden, which has been in flower for some time past, still displays its inclination to bloom with the closing days of October.

Pinguicula caudata. — This brilliant species is well grown at Syon House; indeed, several fine plants we recently noted there were as remarkable for their handsome foliage as the highly coloured blossoms. The shade of colour at this season is always welcome when such things are not plentiful.

Begonia aconitifolia. — This and the well known species *Knowleyanoides* are especially valuable for early autumn in small pots in the greenhouse, where the pink and rosy white flowers respectively are very useful. In a cut state, too, the sprays of blossoms are very pleasing arranged with other things.

Hydrocleis Humboldti. — A very pretty and interesting aquatic for the warm house, and, though not very free flowering at this late date, the few blossoms that expand are welcome on the surface of the water when such things are rare. In colour the flowers are a pleasing canary-yellow, tinted with orange at the base.

Cimicifuga simplex. — A very pretty and effective species with erect spikes of creamy white flowers. The latter borne in rather compact and dense spike racemes, in this respect bearing some resemblance to *C. cordifolia*. The species under notice appears to be much taller. The above plant is now in flower at Kew.

Hedychium coronarium. — Where pure white and fragrant flowers are valued at this season this plant should be grown. In the aquatic house at Kew large plants of it are now in flower, and, where similar treatment can be given to it, this fine East Indian species should always be grown. Heat and moisture are the chief items to its successful culture.

Nerine undulata. — A batch of this pretty and interesting species is flowering in pots at Kew, so arranged as to show its character when grouped together. Compared with the more showy kinds this species is not at all brilliant, yet the wavy perianth divisions are very pleasing

in their delicate pink hue, and for vases would certainly be productive of good effect.

Seedling Pernettyas.—Mr. Anthony Waterer had a beautiful lot of these plants at the R.H.S. meeting on Tuesday, the plants masses of their various-coloured berries. The plants, of which there were several dozen, probably were lifted from the open, and showed clearly how valuable such things are at this season. The berries were of several shades of red, violet-purple and snow-white.

Pear Tricimphe de Vienne.—I have this here as a low cordon 15 inches from the ground. The fine yellow and bronze fruits bed to be laid on pieces of slate, as they were so long. The flavour is superb, and in this hot season it could have been eaten from the tree. I am pleased to hear that it does as well as a bush. My trees are on the Quince, which I consider a fine stock.—ARTHUR HALES, Aameres.

Apple Professor.—A. Young wishes to know about this early Apple. I have it here as an espalier, in which form it never fails to give a fine crop. It seems to me to be much after the old Manks Codlin, not nearly so soft as Kewick. It keeps fairly well and cooks well. The growth of the tree is sturdy, and in the form I have it it does not want much pruning.—ARTHUR HALES, Chipping Barnet, Herts.

Phlox arcana.—The rich masses of flowers produced by this alpine species render it one of the most popular of its genus, and in certain soils it continues to bloom for some time during the summer. In this part of Middlesex this species is generally a profuse bloomer, and is still producing a few of its flowers, that are quite welcome if not numerous. Many clusters of buds will, I fear, be unable to expand.—E. J.

Seedling Nérines.—Judging by the frequency of the exhibits of these beautiful bulbous plants of late at the Drill Hall meetings, Nérines are becoming more freely grown than formerly, and may in all probability become popular. On Tuesday last Mr. H. J. Elwes, Colebourne, had a very pleasing variety of these, showing how well they are adapted to hybridising. Nor is this all, for the plants are so nearly hardy that anyone with a small greenhouse may grow them.

Rosa indica sanguinea.—Despite sharp frosts on several nights of late—as many as 9° being registered—this pretty Rose flowers on with its wonted summer freedom. Near the end of the Palm house in the Royal Gardens at Kew are beds devoted to this variety, as also the typical species, the plants being yet crowded with blossoms and buds in great numbers. Cranmois Supérieur is also flowering in company with White Fairy and Mme J. Schwartz, beds being devoted to each kind.—E. J.

Saxifrage Fortunei is the latest flowered of this extensive genus of hardy plants, though there is no absolute certainty in all gardens of the perfect hardiness of this species. In any case it would be unwise to leave all the stock exposed during winter, and, indeed, taken all round, the plant is better suited to the cool greenhouse, where it may receive protection. The flowers are white, rather small, though very numerously produced on erect panicles above the somewhat fleshy and distinctly toothed leaves. Well grown, it makes a capital pot plant in the cool house till quite late in autumn.

Nerine flexuosa major.—This is one of the most freely flowered of all the Nérines, and was exhibited at the Drill Hall on Tuesday by Sir T. Lawrence. The group contained something like a dozen samples of this kind alone, several plants having five spikes each of pretty pink flowers. The plant is only 15 inches to 18 inches high, and umbels freely flowered and compact. Several examples of *N. Meadowcroftii* were also included in the group, the flowers being of a rich salmon-orange hue and with large umbels of flowers. The plants were mostly in 4-inch and 5-inch pots, an item much in favour of growing them in quantity.

Abutilon Golden Fleece.—It is only rarely we see the value of the let-alone principle so fully

demonstrated as is the case with this plant in the Royal Gardens at Kew. Throughout the whole summer this variety has been loaded with its flowers, and even now (October 24) there must be 200 or 300 fully expanded blossoms. The specimen is planted out beneath the stage in one of the greenhouses and trained near the glass, where it is allowed its own way. The result is that a space at least 10 feet square is covered by the plant, which has yielded so abundantly of its flowers without any sign of abatement.

Frenthemum tuberculatum.—This is a most distinct and pleasing plant of sub-shrubby habit now flowering at Kew in the No. 7 range. The plant in question is rather more than a foot high, and assumes at that height a somewhat horizontally branching style of growth from which spring almost endless numbers of pure white flowers, the latter being produced from slender twiggy branches of which the plant is composed. The flowers are about 1½ inches across, very pure, and partake somewhat of the white Jasmine or Bouvardia corymbiflora Humboldtii in their form. It is evidently a profuse flowering species and exceedingly neat in appearance. It is a native of New Caledonia.

Plumeria (Lesandra) macranthum.—Among autumn and winter-flowering plants having blue or violet flowers this, of which a plate appeared in THE GARDEN, August 5, 1893 (p. 120), is, perhaps, the most worthy and most handsome. The flowers are large and of the showiest description, brilliant indeed in the richness and intensity of the violet-purple hue, that makes it a most desirable greenhouse plant at this time of year. Not only are the flowers large and handsome, but in the case of two or three year old plants are produced in considerable profusion for a long time. The plant succeeds best when planted out, and for training to a roof or the end of a greenhouse is one of the best that could be named. Just now in the large greenhouse at Kew a capital specimen covers several feet.

Begonia Haagreana.—The true character of this handsome Brazilian plant is abundantly demonstrated in some large examples of it now flowering in the Begonia house at Kew. Why so bold and striking a winter flower should not be generally known and grown is difficult to understand, as it is certainly among the most attractive of the genus now in bloom. The foliage is rather large and abundantly produced, and forms handsome specimens, some 3 feet high and, perhaps, the same through. Overlapping this wealth of handsome leafage are the immense pink and white trusses of bloom, produced on peduncles a foot long and making a most attractive plant at this time. Externally near the base the flowers are rather heavily flushed with rose and bearded to about one half their depth. Such a fine plant deserves to be largely grown in gardens.

Japanese Irises.—Send you a photo of a bed of Iris Kampferi growing alongside my piece of water, and where the roots are always in moist soil. I have others growing in the water at the edge of the lake, the water being fully 12 inches deep; here they also do remarkably well, if not better than on the banks, as they flowered beautifully this year. The great difficulty I have to contend with is from the water rats, which burrow from the edge of the piece of water till they undermine and eat the roots of the Iris. I have now stopped this by putting wire and slates 18 inches down into the ground all round the beds. This year, although I wired in all the plants growing in the water, the rats climbed over the wire and ate almost every flower-stalk just as they were coming into flower, leaving the leaves, which, however, they proceeded to eat after finishing the flower stalks. I trapped and shot the rats, but they were exceedingly numerous and I could not stop them in time. I shall now have to discover some other means of protecting the Irises. They are worth protecting, as they are the most beautiful of the Iris family when well grown, and that is with moisture and sun. I have

in my beds every colour almost, some very beautiful.—GEORGE DIXON, Astle Hall, Chelford, Cheshire.

** The photo showed a dense group of Iris, prettily massed beside water.—EJ.

Lilium Lowi.—I send to you what I think may safely be called the last Lily of summer. I have frequently come across what I imagined would be the last Rose of summer, when a later one still has appeared to rob it of the distinction it had too prematurely obtained. There is little fear of that, I should think, with the Lily I send you. I never was more surprised by anything in my garden than when returning home a few days ago after a long run on the Continent I found myself greeted by the smiles and the magnificence of some Lilies from Burmah which were still in full blossom. In the first place I did not know that Burmese Lilies are so grand as they certainly are, and the second I had little expectation that in such a difficult year as this had been the bulbs which I received from Burmah in the spring would do so well. They were kindly sent to me in March by Captain Grant and were all potted and covered over with coco fibre; as soon as they had moved a little and the roots were sufficiently strong they were carefully planted in a bed which has been devoted to a collection of Indian Rhododendrons, and were then left to themselves. The weeks and months we had, during part of the spring and the whole of summer, of unbroke and absolute drought seemed to be terribly against them, and when I left home in early August I thought that all Lilies must be failures this year, as up to that time they had been. Judge of my surprise, therefore, when at this late period of the year I came back to find Lilium Lowi and *L. nepalense* as happy as though a midsummer sun was shining on them still, or as though they were actually at home in the highlands of Burmah. Good as the blossom is which I forward to you in the last half of October, it is not so good as several others which preceded it. The point of importance about the Lilies of course is if they will continue to live on in the Isle of Wight, but that will be soon put to the test. If they will only not follow the example of *Lilium auratum* they will be of great value. If they will be contented with the treatment which *Lilium Henryi* cheerfully accepts, it will be all right.—H. EWANS, St. John's Ryde, Isle of Wight.

PUBLIC GARDENS.

The Postmen's Park.—An appeal is made for £6000, the balance of a fund required to preserve and extend the St. Botolph's, Aldersgate, Public Garden, adjoining the General Post Office at St. Martin's-le-Grand. This is one of the few spaces in the City of London, and is much frequented throughout the year, especially by the post-office employés. The Treasury, through the efforts of the Postmaster-General, have agreed to contribute £500, the owners themselves will give £1000. The Earl of Meath, chairman, Metropolitan Public Gardens Association, 83, Lancaster Gate, London, W., will acknowledge contributions.

Tecoma Smithii.—Will any reader of THE GARDEN kindly tell me the treatment necessary to have this plant flower the first season when raised from seed?—A. N.

Names of plants.—*Lamiastrum*.—Probably *Berberis Thunbergii*; kindly rec'd. when in flower. *J. J. B.*—1, Iris foetidissima; 2, *Aster cnicoides*; 3, *Aster Amellus*; 4, *Aster Novi-Belgii*; 5, *Pyrreheum uliginosum*; 6, *Eryngium europaeum*.—*J. R. Lloyd*.—*Viternaria Opulus*.

Names of fruit.—*Constant Reader*.—Peter Marie Benoît.—*Polygalia Bodinieri*, 1, Peter Marie Louise d'Uccle; 2, arrived in pulp; 3, Autumn Bergamot; 4, *Buerre Rance*; 5, *Fondante au Cimice*; 6, *Beurre de Ghelin*; 7, *Marie Bencist*; 8, rotten.

No. 1303. SATURDAY, November 7, 1896. Vol. L

"This is an Art

Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE.—Shakespeare.

ORCHARD AND FRUIT GARDEN.

APRICOTS.

TO THE EDITOR OF THE GARDEN.

SIR,—I always read with interest anything appearing in THE GARDEN on the Apricot, as I esteem it the best of stone fruits, and think that a well-ripened Apricot from a south wall is superior to anything that can be produced under glass. I agree with your Stoke Edith correspondent that it is begging the question to say that the Apricot has left off ripening in England, although quite recently a large nurseryman of this district said to me, "Oh! do not plant Apricots; they no longer ripen in the open in this county." If our earth be trending again toward a glacial epoch, as some philosophera tell us, it is ridiculous to think that a generation would show a perceptible difference. That the Apricot is not the common fruit it was is an observed fact, and so an empirical excuse has been made to do duty for an explanation.

When I was a boy, some thirty-five or forty years ago, I remember two farmhouses in the county of Gloucester with Apricot trees planted against their gable ends. I cannot even name the aspect of the soil, although the one I more particularly remember, which was situated on the borders of Worcestershire, was on a clay farm, and was therefore doubtless growing in soil of a clayey nature. This tree covered the entire end of the house, reaching right up under the pointed eaves, some 30 feet or more high. It always bore fruit, but had a full crop about every third year, and then it was a picture. It is a golden vision I shall never forget. It was loaded and crowded with fruit from the ground to its topmost twig. I do not like to trust my memory with the quantity, but I know it was measured in bushels. It may not have been dessert fruit, though I thought it perfect, but it ripened thoroughly and must have been excellent for preserves. I am quite able to say that a good deal of it was not small. Now one thing is very certain about this tree: of what we call culture it had nothing. On a frosty day a farm labourer may have gone up a ladder and have done something which he called pruning, and it may have had an occasional nail; for the rest it grew out of a trodden path. Where are such giants to be found in these days? As a farmhouse and cottage fruit, as far as my observation goes, the Apricot has clean gone out of cultivation. It may be rather profane, but it is very wicked to suggest that, what with coddling and fads, it is being cultivated out of existence? We interfere with Nature too much; we cannot leave things alone; we have more knowledge, but I doubt if we have more wisdom. My suggestion is rank heresy I know, but I offer it as at least as good an explanation as the left-off-ripening theory.

The moral of it all is, that when I want a couple of dozen pounds of fruit for Apricot jam, I have to send to London for rubbishy French stuff of a pale lemon colour and about the size of Walnuts, for which I have the privilege of paying £1. a pound.

R. P. S.

South Hants.

Grape sports.—Grape sports seem to crop up periodically in different places, but it would be

interesting to know to what extent they become fixed. I see at Chiswick there is now a Muscat sport. My impression is that after a season or two the sports revert to the original type. A few years ago one appeared in this neighbourhood, and there was no mistaking the distinctness of the check upon the particular spot where it originally appeared, and for a few years it was clearly distinct. The other day I saw it again, but the distinctness had disappeared. In the case of flowers sports are easily fixed, but it does not appear so in fruits. —A. YOUNG.

Pear General Todt'schen.—In a favourable season the flavour of this Pear is really good, but in a cold, wet year it is very unsatisfactory. The tree makes first-class cordons on the Quince; it then bears heavily, and the fruit ripens during November. Although not a first-rate Pear, one tree at the least, if only a cordon, should be in every collection where the soil is warm and position suitable. I would not advise it for a cold, damp soil. The fruit is pyramidal, generally irregular in outline, being larger on one side than the other, the skin pale yellow when ripe and regularly dotted with light brown spots. —A. W.

Apple May Queen.—Some Apples under the above name were sent me a few days ago by a gentleman who grows fruit largely for the sale of them. He stated it was an old Worcestershire variety, and one that kept remarkably well—in fact, until the end of May—hence the name. It is such a fine flavoured, highly coloured Apple that I think it worthy of a note, and being such a long keeper it is the bargain, it should be made more widely known. In shape and appearance the fruits somewhat resemble Fearn's Pippin, but there the similarity ends, for May Queen has a crisp eating flesh, with a rich sugary flavour much like Cox's Orange Pippin. Richly flavoured, late dessert Apples are not plentiful, and this variety should prove a valuable addition. The fruits sent me are rather small, but this can be accounted for through the drought, and very likely the trees are old also, and no doubt fruit would grow to a much larger size on younger trees.—A. W.

Apple Golden Spire.—An excellent Apple and one that is held in high estimation by market growers on account of its handsome appearance. Although the fruits are by no means large when compared with many other well-known Apples, they are very attractive, and it is this fact that renders them so valuable from a market point of view. Golden Spire is also grown extensively in gardens for private consumption, and it is frequently to be met with in fine form in collections of Apples on the exhibition table. It is a Lancashire variety and is still largely propagated and distributed in that and the adjoining county of Cheshire, both for planting in market and private gardens. It is a solid conical-shaped Apple, coming into use about the end of August, and is superior in keeping qualities to many of the early-cooking kinds, as it will last in good condition until Christmas if required. The habit of growth is rather peculiar, as the shoots made annually are spindly looking, although healthy, and contrast unfavourably with those of more robust-growing kinds. In cropping it is all that can be desired, for the tree bears most abundantly.—GROWER.

Pear Williams' Bon Chrétien.—No garden is complete without a tree or more of Bon Chrétien Pear, but, to have it really at its best, it must be grown in the open, then, if gathered before it will part readily from the tree, the flavour is very good; in fact, three or more gatherings may be had so as to prolong the season. To leave this Pear on the tree until the fruits will gradually ripen is fatal, for if so they will become mealy and decay quickly; whilst, on the other hand, if the gathering is done as I suggest, the fruits ripen up fine-grained and juicy. It is waste of space to grow it as a wall tree, as the fruits are much better flavoured grown in the open, and besides, the trees crop much more freely. It is said to be rather a shy bearer, but

if grown as a standard this fine September Pear will crop as freely as any of them, and for market is much the better class of tree to adopt. Williams' Pear has sold well this season, any one in this district having a supply readily securing quite good prices.—A. YOUNG, Witley Court.

FRUIT-GROWING UNDER DIFFICULTIES.

In the grounds adjoining the private residence of Mr. T. Ridgwell, Orsett, Essex, an orchard has been raised under peculiar circumstances and under great difficulties. The site is a moderately steep slope to the south-west, and from the surface to a depth of 12 feet little else but gravel or smooth pebbles could at one time be found. Gravel could be quarried in any part of it profitably. It would have been an act of madness to attempt fruit culture on a fairly large scale in such material as this, but not to be beaten, Mr. Ridgwell has carted clay, loam, road trimmings, manure that was collected at odd times and from a variety of sources, and this compost was freely mixed with the ordinary soil wherever trees or bushes were planted. As far as the surface is concerned, it seems all stones now, but a closer examination discloses better what has been done. It is about half soil to a distance of 3 feet from the stems of fruit trees and rather less was given to the bushes. Long rows of standard Plums and Apples, bush trees of the latter, thousands of Gooseberry bushes, and Raspberries also in large quantities are all in a prosperous condition, and even Asparagus, Lettuces, and other vegetables in the spaces between were presenting a happy appearance, though it is only fair to add that solid manure is annually ploughed in freely and heavy mulchings of the same are applied.

The question is, does it pay to expend so much in "making" land where there is so much ground idle in Essex and elsewhere. Mr. Ridgwell has good reason to think it does, and he is the wrong man to indulge in costly experiments without good reason to believe they will pay well in the end. Of the crops of Gooseberries I can say nothing, beyond remarking that their present condition fully bears out all I was told as to the grand crops those five and six-year-old bushes produced this year. The Plums were also nearly over, but there had been heavy crops of Victoria, Monarch, Michelson's, Pond's Seedling, and Oullin's Golden Gage gathered from the trees, and yet good growth is observable on most of them. The Apple trees have done remarkably well. Pott's Seedling, Warner's King, The Queen, Lord Grosvenor, and other popular cooking varieties were remarkably fine in spite of the weight of crops and the dryness of the season, for the Orsett district, as I happen to know, is a dry one. Peasgood's Nonsuch was grand. The largest fruit measured 14½ inches round and weighed 1 lb. 3 oz., and there were many more fine fruit of this variety. Of the dessert varieties Cox's Orange Pippin is the greatest success. I never saw better crops of this variety. Bushes on the English Paradise stock are from 4 feet to 5 feet high and as much through. There were scores of these carrying four to five dozen large, highly coloured fruit apiece, and where they are not growing quite so strongly the crops were still heavier. I have seen this grand Apple under a variety of conditions in different parts of the country, but Mr. Ridgwell's trees eclipsed anything I had previously met with. He ought to have followed Mr. Archibald Weir's example at Herstmonceaux, and planted Cox's Orange Pippin to the exclusion of all others. It would have been a commercial success. Strawberries can also be grown profitably in a mixture of stones and soil. Below the orchard I have described there is another stretch of gravelly ground, and which, in the course of a quarter of a century, has been gradually improved by the addition of soils and manure, or sufficiently so to make it capable of producing both early and heavy crops of vegetables, notably Peas and Strawberries. Although what we may now term

the rainy season had not long set in, the rows of Sir J. Paxton, the variety grown as being best adapted to the soil, were full of life and unusually plentiful. They had borne good crops and paid well in spite of the great heat and dryness felt about them. Strawberries were ripening. I am thinking that of the two evils, too much clay or an excess of stones, the former is the worse or the slower to ameliorate.

W. L. ISLESDEN.

THE MYROBALAN AND MIRABELLE PLUMS.

REFLING to a question of ours as to the confusion between the Myrobalan Plum and the pretty little Mirabelle Plum, so much grown in certain parts of France, M. Charles Baltet, of Troyes, writes as follows:—

The Myrobalan Plum tree (*Prunus Myrobalana*), a native of Eastern Asia, and sometimes termed the Cherry Plum, is a distinct species which is employed in France as a stock for grafting Plums and Apricots. The Peach will grow upon it, but the graft is not long-lived unless when double-grafted on the Damson (*Prunus damascena*). The Myrobalan Plum is multiplied both from seed and cuttings, and thrives in dry or calcareous soils. Nurserymen grow three forms of it—a red-flowered and a white-flowered kind. The latter kind has the advantage of bearing less branching in habit, and consequently does not give so much trouble in the operation of heading back. The other kind, however, is more vigorous in growth and is the kind most generally used. The purple-leaved Plum (*Prunus Pissardi*), which was introduced from Persia some years since by M. Firdard, is a variety or form of P. Myrobalana.

On the other hand, the Mirabelle Plum is a variety of the wild Plum (*Prunus domestica*), yet, like the Reine Claude and the Quetsche, constitutes a kind which reproduces itself pretty regularly from seed, grafted cuttings and stool layers. In Lorraine also, where the Mirabelle Plum is very extensively cultivated, there are forms of it which have been obtained by selection and which are propagated from cuttings put in in autumn. These are known as the Buxières and the Ronvaux Mirabellines, and, if necessary, may be used as stocks for the other sub-varieties of Mirabelle. The Mirabelle Plum tree being usually of only moderate vigour of growth must, if tall-stemmed trees are wanted quickly, be double-grafted with a tall-stemmed variety intervening as a medium ("to me Mons. Carrrière's expression") between it and the terminal graft. The Myrobalan Plum tree, being of very vigorous growth, when headed down furnishes luxuriant stems which in the first year of their growth may be grafted with the Mirabelle. The result will be like some forms of the wild St. Julian Plum or those varieties which, growing rapidly, can be used as the intermediate scion in double-grafting, such as the Quetsche, Reine Claude de Bayav, Sainte Catherine, and Belle de Louviers. Tried in forcing, the Mirabelle, being employed as the stock, has this drawback, that its speedy defoliation prevents the sap from flowing for a sufficient length of time in the plant. Several sub-varieties of the Mirabelle are in cultivation, such as Petite Mirabelle or Mirabelle de Metz; Grosses Mirabell (*a*) called Drap d'Or and Mirabelle de Nancy, and the late Mirabelle known as Mirabelle d'Octobre. All of these are in great demand for use as fresh fruit, and also for making preserves, sweetmeats, pastry, dried fruit, &c.

Cherry Little Duke is a good kind to grow either against a wall or as a bush tree. The best aspect for it on a wall is that facing east, when it ripens about the middle of August, or a little later in some seasons. In addition to its usefulness as a dessert kind, it is also a good cooking Cherry, and should be in every garden where this fruit is found to succeed. The fruit is large, bright red in colour, flesh yellowish, juicy, with a rich, refreshing flavour when thoroughly matured.

If gathered too early the fruit is apt to be rather too acid. I saw some hundreds of bush trees of this variety a few days ago in the most robust health in a nursery, and an inquiry elicited an answer that it is a kind largely in demand for planting.—A. W.

A remarkable house of Grapes.—At Leadenham Hall, Grantham, there is now a wonderful house of Grapes, the varieties being Black Alicante and Lady Downe's. The crop is the more interesting from the fact that the Vines are very old, forty years at least, and were lifted fifteen years ago and the roots laid in partly fresh compost, with a little bone meal added, being at that time next to useless. Mr. McElvie, the gardener, after completing the relaying in early spring, allowed the Vines to come on very gradually, in fact naturally, taking care to shade the house from strong sunlight to protect the young weak shoots for a time. He made good work that season, and the following one made to do for the past fifteen years. The laterals are rather closer together than is usually thought wise to have them, but from every one of them hang heavy bunches coloured like Sloes. This case goes to prove that very old Vines may sometimes be lifted with good results.—C. H.

Pear *Doyenne du Comice*.—I can quite agree with Mr. Cowper who says as to the value of Doyenne du Comice Pear for growing in the open, that is, when the soil is suited to it. In this garden it succeeds admirably grown in the open, but at Abberley, with a soil of quite a different nature, it did not succeed nearly so well. The fruits were of excellent flavour, but they tended to be small and scarred. Where it will succeed in the open one cannot have too many of this grand Pear, as quite a long season may be maintained by gathering at intervals. I do not think there is another Pear from which a succession of fruit of good quality may be maintained for so long a period. Unlike the majority of other Pears, the fruit holds on to the trees without dropping, so as to enable this succession to be kept up. The fruits do not become so large as when grown against a wall, but quite large enough for dessert; in fact, except for making an imposing dish for dinner parties, these large Pears are little cared for. For grafting on to established trees of worthless varieties it is an excellent Pear, this double grafting having the effect of favouring precocity in bearing, no mean consideration for this grand Pear.—A. YOUNG, *Bilney Court*.

VARIABLE QUALITY IN PEARS.

No doubt Pears are more easily affected by weather changes than almost any other outdoor fruit as regards the quality. A hot summer, such as we have had this year, develops in Pears a flavour that is totally unknown in sunless and wet seasons. Of this I have proof this year in comparing some sorts with those of last autumn. It is true there are some kinds not so easily influenced, notably the summer Pear, such as Doyenne d'Eté, Jargonelle and Williams Bon Chrétien. The last-named is very uniform, no matter what the weather may be. Thompson's last year was praised by some and disparaged by others. I found it certainly wanting in point of flavour myself, while from the same tree this autumn its quality and general appearance are all that can be wished for, and anyone inclined to condemn it from the experience gained in a season like that of 1895 would certainly give another verdict this year. Althorp Crassane is another that with me is much better this autumn than last and has matured earlier than usual. This is a very juicy Pear and is much liked at the table on that account. That unusually rich little fruit Seckle appears to be deficient in this respect. Two years ago I was given a fruit or two of an unnamed Bergamot, and so good was its quality that I asked for grafts to be taken on one of my own trees, but on making inquiries of the donor last year I was told that my favourite Pear was

erratic and not to be depended on, judging from its flavour in that year. Up to the present I have no report of its behaviour, and my own tree has not yet borne a crop, but there is a good prospect of its doing so another season. I had one good tree under the name Maréchal de la Cour, and it certainly favoured that variety in appearance, but in three succeeding years it deceived both the eye and palate, and the fourth saw its head removed, and another sort grafted thereon. Probably the stock and soil accounted for this loss of quality, the variety being, according to my previous experience, a valuable and good flavoured winter Pear. I shall have further proof of the correctness of the name I hope another year, as I have a tree on which I put on graft obtained from a good tree nursery three years since, and I hope that in it I shall find the quality of which Maréchal de la Cour is so well known. Many of my trees are large, and in root pruning I found large thorns descending deeply into the subsoil. To this I attribute a loss of flavour in a dull season. The trees proved quite equal to the great drought this summer, producing fruits above the average in size, and what sorts have already ripened are good in quality. Thus the evils of a deep root run have proved an advantage at least for once.

Willis.

W. S.

LATE PLUMS.

THERE are cases no doubt where the value of Plums varies in proportion to the season when they are most in demand, but late ones I find are always appreciated. Some set the greatest value on Gages and care for no others, while there are those not so exacting in point of quality who value an early and continuous supply as long as it is possible to maintain it. For dessert, Coe's Golden Drop cannot possibly be excelled, all points considered. In cropping it is very uniform, nothing but frost at the flowering stage appears to be equal to preventing a crop, oftener heavy than light, and this fruiting keeps the trees from assuming that luxuriant growth often common to young trees of other and less reliable sorts. The fruit has the additional value of remaining on the trees for some time after it has become ripe, provided it can be kept dry and free from wasps, which are usually very determined in their attacks. I have never been very successful in keeping the fruit for any length of time when gathered and wrapped in tissue paper, but this often depends on the state of the fruit and the store room where it is kept. Coe's Late Red is another valuable kind, ripening later than Golden Drop. This is a smaller Plum than the preceding, in shape almost round, and may be used for dessert or cooking, although it does not approach the Golden Drop for richness of flavour. With me this rarely fails to crop, and this, together with its good keeping qualities, makes it a worthy member of any collection. At times, however, we have, as a rule, discontinued their destructive raids, and birds find other food to keep them employed, hence nets and destroyers are dispensed with. For cooking, the Blue Imperatrice is a particularly useful Plum, its small size being in its favour, and stewed it is very rich. My trees of this become literally ropes of purple fruit, and many dishes are furnished from comparatively small trees. The fruit, as in the others mentioned, hangs well on the trees after it is ripe.

In late Gages there are Bryantson's, Brathy's, and Reine Claude de Bayav, all of good size and rich in flavour, though this is scarcely so pronounced as in the summer sorts, and particularly the old Green Gage. They have not, however, to compete with these because there is a good interval between their ripening. As a preserving or cooking Plum Belle de Septembre holds a foremost place, this ripening in October when such fruits are invaluable in the kitchen. One that must become a general favourite is Monarch, a variety of comparatively recent introduction. It is a large purple sort, and, judging from the character of the one tree I planted two years since, is free bearing, combined with a healthy

and vigorous' constitution. This is of no value as a dessert fruit. Except in large walled-in gardens, it is not possible to plant a number of any one sort, and very often small gardens are totally unprovided for in the case of late Plums. With a restricted wall space it is often difficult to get a representative collection of choice fruits extending over a long season, and very often the summer-ripening sorts have a monopoly where there is sufficient extent to carry it out. It must be said, however, that such a state of things cannot always be easily remedied by those in charge, for it would not generally be permitted for a fully furnished specimen to be ousted to give place to a younger one of another kind, even where the selection was bad and the succession equally so. Late fruit may be grown on an east or west aspect, but naturally the best supply would come from a north wall, and in the best to have room on each of the three aspects to continue regular succession. The fact of their ripening so late in the season would naturally unfit them for any other than wall cultivation, and it is doubtful, if there was a freedom from frost, whether the exposure to rain would not have an equally unsatisfactory result, for Plums are given to splitting very badly in wet weather, and once this sets in they must be put to some immediate use, or decay will make a wholesale clearance. Now that the season for planting has commenced, the value of late Plums might be borne in mind.

W. S.
Wilts.

STRAWBERRIES.

In reading the correspondence which has passed during the last few weeks on the subject of Strawberries I have been much struck by a feature which is only too apparent throughout our English discussions, judgments, and shows of fruit and vegetables. I mean the most unfortunate and astonishing way in which flavour is estimated. Let it be understood that I do not include all our authorities or writers, even upon this present subject of Strawberries, in this fault. But I believe it to be broadly true that as a people, and a people pre-eminently given to horticulture, we are immeasurably behind the French, say, or the Italians, in a due appreciation of small, soberly coloured, but delicious fruits and vegetables. As an instance, ready to hand, of my meaning, a Milanese gentleman, whose acquaintance I made in Italy a few years back, in asking my help to obtain a few fruit trees, &c., from English nurseries, declined my offer to forward him plants of our best Strawberries, on the ground that he and his friends cared for none of them while they could have the small wild Strawberries and the cultivated small berries of the Quatre Saisons class, the flavour of these latter being so vastly superior. The English fruit which had especially recommended itself to him, and which he desired me to send him, was the best, i.e., the most richly flavoured, type of Damson, but for the larger English Plums he did not care. Anyone conversant with French or Italian market-places will know that this is but one example of the wiser point of view from which fruit and vegetables are regarded abroad. To keep to the subject of Strawberries, what English hotel-keeper would venture to set before his guests the delicious, highly perfumed little Strawberries, wild or of the wild type, which are brought to market in such perpetual abundance and eaten so appreciatively on the Continent? The word "perpetual" reminds me that in England we resort to the clumsy devices of planting out forced plants, disflowering, sowing, &c., to obtain a few autumnal dishes, while, by providing in every garden a separate bed of one of the Quatre Saisons kinds, all such trouble might be dispensed with. I suggested

to Mr. Laxton lately that a most promising new departure in his industry of Strawberry-raising would be the crossing of the best of our English varieties with the Quatre Saisons, to give us a race with fruits larger than the latter, but retaining its perfume and perpetual character. This should be an excellent new line, but unluckily the foremost demand is for size and colour. It is true that in France we may see enormous coarse Strawberries of the Hé'e Gloeoe class, but I am told they are raised chiefly for English customers and are never popular in France. The humbler French or Italian housewife will reject such a spongy, insipid fruit as Noble, which has flooded our gardens and markets. It is quite a relief to read in the latest catalogue of an influential nurseryman that he has thrown away the big new Strawberry Competitor, introduced in 1890 with a great flourish of trumpets, "because he considers it the worst flavoured Strawberry he has ever tasted." Would that all ourmen were as candid and sensible!

To turn to the notes by "A. W." (p. 253) which gave rise to the present correspondence, it is true that he mentions flavour here and there in his notes as a consideration to be kept in view. But his general tenor is to put size and colour first. Thus in his summary—

By this it will be seen how many have been tried and found wanting, as they did not come up to the requirements of size combined with good colour and flavour—

We find flavour put into the third place. He has rejected President, a fruit of excellent flavour, simply owing to its colour being poor. A French epicure would not care whether it was red, white or green if only it were well tasted. La Grosse Sucrée and Stirling Castle Pine are discarded because want of size told against them, although their flavour is good. That poorly-flavoured sort Sir Joseph Paxton rates as "A. W.'s" stand-by. It is intelligible that market gardeners should retain it until a fruit appears of better quality and no worse in appearance, freedom of cropping, hardiness, and firmness for carriage. But it ought not to be the main-crop Strawberry in any private garden. Of course, the responsibility lies not with "A. W." but with his employers, and he can do nothing if they demand a ruddy fruit with the flavour of a Turnip in preference to one pale, but deliciously flavoured.

There is this standing difficulty about Strawberries, that British Queen, the finest flavoured of all, cannot be persuaded to grow except in certain soils—iron in a large proportion being the constituent it seems to demand—and other kinds appear to fail or succeed according as they have much or little of Queen blood in them. The great requisite is to produce seedlings which shall eliminate British Queen's fastidiousness to soil, but shall retain its full flavour. Such a plant has not yet been raised, and the incitement to raise it would be greater if the public taste were better. Were I asked at the present moment to name the best all-round Strawberry, I should ask myself which is the variety that will grow and fruit freely in almost any English garden and is well flavoured? I can perhaps think of no one Strawberry that answers to this requirement so well as President, a fruit as excellent for preserving as for the table. Had I been on the fruit committee at Chiswick last summer I should certainly have opposed the award of a first-class certificate to such kinds as Countess and Latest of All, while President received only three marks, the last-named being of far greater general value and merit than the two former. But, as I have already suggested,

we have, ready to our hands, in the best of the Quatre Saisons kinds and the best of our larger English varieties, elements which united might enrich our gardens with Strawberries, yielding delicious fruit from June to November, if only we had the sense not to fall down and worship the quite secondary attributes of size and appearance.—G. H. ENGLEHEART.

At page 305 Mr. Talbeck directs attention to a Strawberry grown largely round Bury St. Edmunds in which there is more money than any other, and yet it is wholly ignored in every nurseryman's list I have scanned. This emission can hardly be owing to its age, for Mrs. Woodruff, the variety referred to, is comparatively young compared with Keens' Seedling. I have tried several times to trace its history and have failed in my impression being that Mrs. Woodruff is an assumed name. Possibly the late James Last, of Rougham, could have told us the history of this capital Strawberry. Unfortunately, his relative, who grows the largest stock of it in England, as he finds it the most profitable on his heavy soil, seems to know little of its history. Perhaps some old gardener in Rougham or Bury St. Edmunds will favour the readers of THE GARDEN with all that is known of the origin of this very fruitful, showy, and profitable Strawberry.

My second proof, real or apparent, of the effect of environment on Strawberries will be found in the following sentence gleaned from page 304, where "S. H. M." writes: "Take Keens' Seedling—one of the kinds retained by 'A. W.'—how many have of late years discarded it on account of its failing to fruit freely?" For the last half century I have known and grown Keens' Seedling Strawberry out of doors and under glass, and, take it for all in all, I have met few to equal, none to excel it in constant and persistent fruitfulness, and I consider it the best selected by "A. W.," that is, before either Paxton or Oxonian. Doubtless the flesh of Paxton is firmer and it travels better, but for a good Strawberry for family picking and eating at home and for a good reward for family use, Keens' Seedling takes a good deal of beating. The first complaint I have ever heard against Keens' Seedling not fruiting, and I should place it quite on a level with Paxton for fertility, and above it for quality. Either "S. H. M." has made a slip of the pen or there must be something amiss for Keens' Seedling to be discarded for non-cropping.

D. T. F.

Pear Tricimphé de Vienne.—In answer to the correspondent who is inquiring as to this Pear, I may say it is a very excell'e t'one, coming into use in September. This season it would be earlier, being ready for use the early part of the month. I have known the variety for the past seventeen years. The tree I then knew had been planted a few years, and was received here from France. It is now becoming more popular, having been offered by our best fruit tree nurserymen.—A. YOUNG.

Peach Desso Tardive.—We seldom hear of this fine flavoured late Peach. Is it because, like Barrington, and a few others, it has that very objectionable habit in some gardens of casting its fruit wholesale during storage? I must confess to having rooted it out after giving it a very patient trial, hoping that, as a friend told me, it would with age improve in this respect. At Blickling Hall it does capitally, Mr. Oates thinking a good deal of it, and certainly, in my opinion, it is second to none in quality amongst the whole category of late Peaches. It grows to a large size, is of a bronzy-yellow colour with a tint of red on the exposed side, and will keep longer after it is fully ripe than any Peach I am acquainted with. J. C.

Cherry Black Tartarian.—Cherries received a prominent notice from several growers on page 296, but, among the many sorts mentioned, I do not find the one which forms the subject of this note. For late gathering it is a splendid kind, the fruit being of a deep black and the quality splendid. From a north wall I have seen it gathered in August, and in a collection of

fruit at that date it is undoubtedly a very telling dish. This variety is also known as Black Cincassian in some nurseries and gardens, and a year or two since appeared to be rather scarce in the trade; at least, from the source from which I obtained trees then I had a difficulty in getting it. Although there are such a number of good Cherries, no collection of any pretensions would be complete without this one, and those contemplating the planting of Cherries this autumn would do well to bear this one in mind. In order to get the fruit to hang until the first or second week in August a north aspect must be chosen for planting, and where wasps are numerous there is a difficulty in keeping the fruit.—W. S. Wilts.

Treatment of Bramble plants.—Few need be told that our common hedge Bramble, given liberal food, occasional pruning, and removal of weakly growth, is so altered in character that it will pass as a superior variety. I claim a front place for it, and assert that given good culture it is superior in our soil to some of the American introductions. At this season when the growths are very much crowded, the removal of old fruiting wood and giving a few of the best or most promising shoots support in the shape of ties to a fence or stakes—in fact, treating much the same as Raspberries—will lay the foundation of a good crop next season. Now is a good time to give food, such as liquid manure. With strong canes even supports may not be necessary, as several shoots tied together are self-supporting. In gardens, however, the growths have a neater appearance treated as above.—G. W.

ROSE GARDEN.

NOTES ON LATE AUTUMN AND WINTER ROSES.

NOTWITHSTANDING the heavy storms of wind, hail, and rain, I still have a few Roses in the open. This morning (October 24) I cut some fairly good blooms of Mme. Hoste, W. Allen Richardson, General Jacqueminot, and Marchioness of L'vne among others. But the two best late autumn varieties with me are Caroline Testout and G. Nabonnand. What a grand flower to last the former is! In front of me are four blooms of this that were cut ten days ago, and still they have a charmingly fresh pink shade. Until this autumn I was not struck with the new rugosa calocarpa, but for its autumn foliage it is grand. The growth is plentiful and vigorous, can be cut without stint, and the leaves take on a deep bronzy crimson shade, gradually turning to clear yellow, orange and crimson. Unlike other Roses, the leaves last upon a cut shoot a long time. This morning, too, I cut a flower from an old plant of La France that was the exact counterpart of a fairly good Augustine Guinouiseau. This plant was in my possession, and in the same position, many years previous to the introduction of its beautiful light-coloured sport La France, Lady Mary Fitzwilliam, Comtesse d'Oxford, Catherine Mermet, and other Roses much given to sporting frequently throw a flower or two which it would be impossible to tell from some blossoms of a recognised sport. Souvenir d'un Ami has produced a white sport very like The Queen and Souvenir de S. A. Prince, but with a slight shade of pale lemon-yellow. I have a sport from Catherine Mermet which, in the opinion of some exhibitors, resembles Muriel Grahame. The same plant still produces the light sport, and I had propagated several, three years before Messrs. Dickson's sport from the same variety was known in the trade.

If our supply of Roses is to be kept up we must attend to their winter culture at once. My forwardest batch under glass is now

in a temperature of 65° to 70°, and many of the flower-buds are as large as Hazel nuts. The young growths upon the succeeding batch average about 3 inches; the following batch has just been pruned, mulched, and stood in a house. The main points are to start them steadily, war against the first few insects, avoid sudden fluctuations in temperature, and see that water is supplied with judgment. In the summer months a little extra water does not so much matter, but a sudden soil now is injurious. A great deal of the success with winter Roses depends upon selection. It is folly to grow the very double and globular-formed flowers at this season. A large percentage of these are certain to disappoint by damping and otherwise refusing to expand with any satisfaction. Safrano, Mme. Lambard, Nipheta, G. Nabonnand, and many others with comparatively few petals can be chosen, and which will retain their shape much longer at this season than during the summer months. General Jacqueminot does not fly open in the same way now as during summer, nor do Safrano, Isabella, Sprout and other thin varieties. Winter Roses should open very freely, and with the large selection of colours now available there is no excuse for cultivating unsatisfactory varieties. The foregoing remarks apply to pot Roses chiefly, but even with such as Maréchal Niel upon the roofs and walls of houses I would prefer not to start these until the year is well turned. Unfortunately, the various other occupants of the greenhouse or conservatory demand an amount of heat that precludes our keeping the Roses so dormant. Perhaps Maréchal Niel is about the most double Rose that will expand in a satisfactory manner during the dull and dark days of winter, but the flowers are always better when the plants can be started into active growth at the end of January. There are a good many conservatories and greenhouses attached to dwellings that contain this beautiful yellow climber in some form, and unless the plant be rooting in the border bed well under cover, we need give a little protection to outside soil. In most cases the roots are able to penetrate beneath the foundation and rapidly cover a considerable amount of outside soil. It is quite as necessary to protect these from excessive cold as in the case of Vines. A heavy mulching of light stable manure is a good cover, and should be afforded wherever other subjects upon the outside border do not prevent its use.

Climbing Perle des Jardins is a capital Rose for early forcing upon walls and roofs. This, with an extra strong plant or two of Crimson Rambler, makes a good contrast, and is almost certain to bloom in a free and pleasing manner. Strong plants from pots may be planted out to make a good show this present winter. Papa Gontier, G. Nabonnand, Isabella, Sprout, Safrano, Mme. Falicot, Marquis de Salisbury, Perle des Jardins, Nipheta, Mme. Hoste, Beau't Inconstant and Amazon are certain to open well, and are much better for winter blooming than Ernest Metz, La Boule d'Or, and other double varieties, beautiful as these undoubtedly are under glass early in spring and summer.

R.

Roses for forcing—Can you inform me which of the Hybrid Perpetual Roses bloom the best under glass?—D. B. N.

* * The following, placed in order of merit, are the best: La France, Mrs. John Laing, General Jacqueminot, Capt. Hayward, Ulrich Brunner, Capt. Christy, Fisher Holmes, Caroline Testout, Mme. Victor Verdier, Merveille de Lyon, Alfred Colomb, and Chas. Lefebvre.—E.

Rose Dr. Grill.—Although this is an old Rose, there are very few varieties to equal it

for continuous beauty and free flowering. The colour of the blossoms is coppery yellow, suffused at times with a rosy tint. It is very vigorous, almost as much so as Mario Van Houtte, and produces from the base of the plant towards autumn some prodigious shoots crowned with grand trusses of blossoms.

Rose Camoens.—We have in this variety one of the very best Roses for massing. It is a grand free-flowering Rose. At the present time the plants are covered with the rich, lovely and clear pink blossoms. Should the weather continue fine there will be a gorgeous display of flowers upon this variety for some time longer. It partakes largely of the robust character of the Hybrid Perpetuals. As a standard it is also seen to great advantage, for at times owing to the compact nature of its growth the heads of the standards appear all aglow with the beautiful pink blossoms and buds.

Rose Gloire de Dijon as a shrub.—Recently I saw two splendid bushes of this grand old Rose, each bush occupying the centre of a circular bed; in fact, so large were they that the beds were entirely covered. The pruning of these two plants had evidently been entrusted to a careful observer of the growth of Roses, and he had made good use of his opportunity in retaining almost entirely all the growths these plants produced, and the result was a pair of bushes too rarely seen in these days of excessive pruning. If more such shrubs were grown, instead of the ofttimes weakly, miserable-looking standards which border the carriage drive or lawn, they would certainly be much appreciated.—P.

Rose W. F. Bennett.—We have but few good red Tea Roses, the one bearing this name being one of them. It is a kind I think highly of as to colour, but as a grower with me it is poor in the extreme. Some years ago I obtained a strong plant of it and grew it in a pot for several years, trying in every conceivable way to induce it to make a good growth. It would make a few inches of growth and bloom. After several years I resolved to plant it out at the foot of a south wall, and although it has been there two years it is much smaller than when I planted out. During this summer it has borne a good number of blooms, and to-day (October 24) I cut two lovely buds. This plant is worked on the Manetti, and this may account for its slow growth. Have other growers found it as slow in growth, and can anyone say how it does on the seedling Brier?—DOSSET.

Semi-climbing Roses.—It always grieves me to see bare walls in sunny, sheltered positions, especially low walls in front of greenhouses, the more so when I call to mind the many lovely plants that could be grown thereon, and which would afford their owners so much more additional pleasure. Plants I would especially recommend are Tea, Hybrid Tea and similar Roses of a semi-climbing habit. I recently noted the wondrous beauty of some Roses growing upon the low walls in front of a range of span-roofed houses. That grand Tea Marie d'Orléans had attained a height of 4 feet, and it was all aglow with its fine, rich rose-coloured blossoms, which appeared to develop into perfect specimens, doubtless owing to the genial warmth and protection the walls afforded. Great care must be taken to remove the old soil and commence with some good rich compost. The old soil should be removed to a depth of 21 feet at least. Half a foot of old crocks or broken bricks must then be put into the hole to secure ample drainage, and upon this drainage 2 feet of rough fibrous loam, with a sprinkling of crushed bones and some well decayed cow manure added. The plants should be on the seedling Brier, and if carefully planted in this compost they will soon become fine bushes. A good soaking of water given at intervals during the summer months, followed by a mulching of short manure would be very beneficial. Apart from this watering they will require no other care, save very meagre pruning in spring, and thinning out of the shoots during the summer.—P.

TREES AND SHRUBS.

HYDRANGEA HORTENSIA IN THE ISLE OF WIGHT.

The photograph of *Hydrangea Hortensia* was taken last September by Miss Blanche Thorneycroft from a shrub in her father's garden at Steyne, Bembridge, Isle of Wight. The shrub is more than ten years old, is planted on level ground, and is quite 6 feet high. Notwithstanding the extreme drought of the last summer in the Isle of Wight, it appeared to suffer but little, and bore a large number of fine blooms, many of which had been cut before the photograph was taken. It is protected by the house from the south-west winds, and a clump of

during sharp weather, and this will probably be the case this winter if we get sharp frost, as I notice it is growing freely since the rain. Should Mr. Thomas decide on it, let him take care to procure a good variety, as there are worthless varieties frequently sold for the correct one, viz., *purpurea*. If this is planted it will be sure to please. The common one flowers very sparsely and the plumes are of a light colour.—T. ARNOLD, *Cirencester House*.

Tamarisks.—I think I am right in saying that there are only three distinct hardy species of *Tamarix*.—*T. gallica* (the common kind), *T. germanica*, which is called Myricaaria germanica, and *T. hispida*, which is not in the trade, I believe. There is, I know, a multitude of so-called species, but botanists class them chiefly as forms of *T. gallica*, and rightly so, I think. All the *gallica* forms are beautiful, and I never lose an opportunity of

residence of the Dowager Lady St. Oswald. There are three noble specimens on the lawn in front of the mansion, and from 150 yards to 200 yards apart, so far as I can remember. These plants are isolated, with their under-branches running along the well-kept sward, each covering a space over 30 yards in diameter. The largest specimen has a spread of branches over 100 yards in circumference, and is over 7.5 feet in height. What can be more telling than such plants as these, with a background of various flowering trees and shrubs and evergreen and deciduous forest trees? All these plants have a decided outgrowth around the stem about 2 feet from the ground. This led me to conclude that they had been grafted, and if so, it may be in measure account for the exceptional growth of the trees. There are many other plants, both rare and large, in the pleasure grounds and herbaceous borders at Appleby Hall well worthy of note, but my object at present is to draw the attention of your readers to the Copper Beeches in order that I may learn if there are any larger ones in Britain.—R. C. H.

Magnolia fuscata.—Although possibly the most insignificant of all the Magnolias so far as the size and colour of the flower are concerned, in the matter of perfume *M. fuscata* will take precedence of all. Early in the present season I was able to forward blooms of the largest kind to be found in the family (macrophylla) — an expanded bloom of which will measure nearly 12 inches in diameter — to one of the meetings of the R.H.S., and was anxious to send fuscata at the same time by way of contrast, but could not get it out. Is there a greater contrast in plant life so far as one species is concerned, taking the blooms in the partially expanded bud stage, the one as large as a fair-sized lamp glass, the other going easily into the bowl of an ordinary tobacco pipe? I should like to direct attention to fuscata at this time, because anyone requiring a plant for the back walls of conservatories will find it admirable for the purpose, the scent being at once unique, sweet and powerful. An idea prevails that it is of very slow growth, but this is not the case when planted out in a well-drained border in nice, sweet loam, and well cared for in the matter of water. An annual growth of 9 inches under such conditions may be taken as an average. The scent is also retained a long time

when the flower is removed and placed in water if taken from the plant when the petals are firm. The flowers want taking when there is just the slightest sign of bud-expansion; an opening of the petals is immediately followed by the dropping of the same. If planted out in the border this Magnolia should, as noted above, have a well-drained position; it will stand dryness at the root much better than anything in the way of stagnant moisture. If there is a tendency to strong growth towards the top of the plant and a suspicion of getting bare at bottom, heading back or pruning out the top deemed necessary should be done to directly after the flowers are off. The only enemy I have known it to be troubled with is scale, and this, if allowed to get the upper hand, is somewhat hard to eradicate on a plant that has thin, fine wood and whose leaves are rather thickly set together. It is advisable to give a thorough annual cleansing about the time when the wood is ripe and before the tiny flower-buds are formed.—E. BURRELL, *Clarendon*.

Berried bushes.—There are no berried bushes



Hydrangea Hortensia in the Isle of Wight. From a photograph sent by Mrs. Thorneycroft, Eyot Villa, Chiswick Mall.

Pines affords partial protection on the east, but to the north it is rather exposed.

Trees best flowering shrubs.—I consider *Spiraea arborescens*, *Viburnum plicatum* and *Rosa rugosa* to be the best deciduous flowering shrubs hardy in this district. Paul's double Crimson Thorn and *Pyrus Malus floribunda* I should class as trees, otherwise would have recommended them.—SIR A. PALMER, *Wanlip Hall, Leicester*.

— In addition to the three shrubs referred to (p. 278), I would mention two varieties of the double Cherry, viz., *Carissa Watereri* and *C. domesticus* B.-pl. These are perfectly hardy and never fail to flower freely. The three you mention are lovely. Perhaps the least reliable of them is *Prunus triloba*, which is not a particularly attractive flower, though the other although more beautiful. *P. Malus floribunda* is the finest flowering shrub in cultivation. I have several here of goodly size, and they never fail to bloom freely. With regard to *Rhus Cotinus*, it is not always safe. Here it frequently gets its young growths nipped

planting them. They vary a good deal in glauco ness and also in habit of growth, but to me they are all Tamarisks and have the same effect. *Myricaria* is distinct both in colour and growth and thoroughly hardy. I saw this week a very beautiful species (*T. chinensis*) in a Yorkshire garden, but I believe it is not hardy.—W. GOLDING.

The Copper Beech.—As an ornamental tree for lawn, wood and shrubbery, no plant equals the Copper Beech in giving colour and effect, especially when it attains large dimensions. At Grimston Park, Tadcaster, there are some very tall trees growing along the margins of the wood forming the boundary of the pleasure-grounds, but the growth of Sycamore and other trees, by which they are backed up and partly smothered, has either killed or prevented the formation and extension of their lower branches. In spite of this defect as specimens, however, the dark purple foliage contrasts beautifully with its soft green surroundings. The finest specimen of the Copper Beech I have seen, and perhaps the largest in the country, is at Appleby Hall, Lincolnshire, the

that excel, at present, in wondrous beauty, produced by fine masses of fruit, the well known *Citrus* *Praecaria* *Lelandii*. I had thought some grand growths projecting above a front wall at Surbiton to have been remarkable in this respect, but I came across a wonderful pyramid bush at the same place recently that excelled all previously seen. This is growing in a small garden in front of a cottage in one of the Surbiton bye-roads. The bush, about 7 feet in height, forms a perfect cone or pyramid, and is literally a mass of bright scarlet fruit from top to bottom.—A. D.

FLOWER GARDEN.

GLADIOLUS.

I THINK it must have occurred to any lover of flowers who saw the collection of magnificent blooms exhibited by Messrs. Burrell and Co., of Cambridge, at the Drill Hall, Westminster, to ask how it is that this splendid autumnal flower is not more extensively grown and also brought to the exhibition table. It is of course difficult to institute comparisons, but were I asked, "Which do you prefer, the Dahlia or the Gladiolus?" I should unhesitatingly say the latter. Both, of course, involve a great deal of trouble, and no florist flower can be properly grown unless considerable pains be taken with it; yet there is no flower which has so peculiar a history as the Gladiolus. Nurseriesmen highly prize it, and if anyone wants to obtain a collection, there are only two or three sources from which they can be supplied. The French varieties come to us from Foutainebleau; you may order them through other French merchants, but even first-rate houses do not grow them themselves, but obtain them from the Foutainebleau grounds; and also in England we have but two extensive growers; both have raised seedlings and go largely into their culture. Both say that, notwithstanding we see but few amateurs coming forward, financially the culture pays them. What then is the reason that they are not more extensively exhibited? I have watched with considerable interest the rise and decline of many an exhibitor. I have seen people very enthusiastic in growing and exhibiting them, but after a few years their place knows them no more. In or about London it is only at the Aquarium that prizes are offered, and then it is for a collection, so that a smaller grower has but little chance; in fact, there are never more than two or three exhibitors, and it is, therefore, no wonder that so little encouragement is given to the flower. Most people are out of London at the time that the Gladioli are in full bloom, and at the Drill Hall there are hardly at any time more than a dozen of the general public in the room. The season has been with the Gladiolus, as with many other flowers, a very early one. Mr. Fowler writes to me that his were all over by August 12, and generally speaking at that period he has abundance of flowers for the Taunton show. I had hardly anything left in flower by September 1, although there have been seasons where I found a great difficulty in cutting a dozen spikes in the first week in September owing to the flowers not being sufficiently developed.

Those who have grown the flower know well enough that the plants may be divided into three or four sections corresponding to their period of blooming, and, no matter what the character of the season may be, they keep to this characteristic; thus such flowers as Shakespeare, Amalthea, and Gertrude (Burrell) will always be amongst the early bloomers, and

Amitié and Matador amongst the late ones, and no method of cultivation will make them alter their position. It would not do to encroach upon the brief, but excellent paper by Mr. Burrell, read at the Drill Hall, but one point may be distinctly noticed, that while it is impossible to keep for more than four or five years the blooming bulbs, there is no degeneration in stock; the small bulbs which surround the old ones may be counted upon in two, or at the most three, years to give us as good blooms as the older ones. It is in this way that the large stocks of the growers I mention are maintained, and although the purchasers of these bulbs are not contented unless they obtain large-sized ones, those who possess smaller-sized bulbs will probably grow as fine flowers. For instance, I have this year had some beautiful spikes from seedling bulbs which were not larger than a medium-sized Walnut, so that those who care to grow from seed, which should only be saved from the best varieties, will be able to have blooming bulbs in three years' time. Of course, it will be desirable to hybridise in order to obtain the best results, and there is no flower in which this process can be more easily carried out. It is a very favourite flower of the humble bee, though I have never noticed the honey bee entering its wide portals, but the humble bees, especially the larger kind, seem to delight in rolling themselves in them. It would be therefore necessary to commence operations before they are at work. I think, however, that in this, as in the Rose and in other flowers, we have obtained as good results by natural hybridisation as by artificial. I have only been able to note a few of the novelties which have appeared this year for the first time. I give in the first instance the names of those French varieties of last autumn which I have flowered in my own garden:—

ANITA.—A good flower of a purplish pink colour, a handsome large spike, with full perfect blossoms.

BACCHANTE.—A long spike with very large flower; the colour is a bright salmon-rose, shaded with scarlet, reminding one of that fine old, but now somewhat scarce flower Adolphe Brognoni. **EDISON.**—A splendid spike of very large salmon-scarlet flowers, very largely spotted with white on the three lower petals, a flower of great merit.

ORMANIL.—This is, I think, the finest flower that has as yet been sent out by the Foutainebleau firm. The contrast is very striking between the bright orange-scarlet and the large white spots; it is also apparently a very vigorous flower, and I have no doubt that in stronger soil than mine it will be still finer and more beautiful.

PARTIE.—Very large flowers bearing a resemblance to Enchantress, but white in the centre and of a pale satiny rose colour, the edge striped with carmine.

TAHIS.—A splendid spike of very large flowers of a pale rose colour, edged with brighter rose having ivory white spots, very effective.

Amongst the splendid batch of flowers exhibited by Messrs. Burrell & Co., of Cambridge, there were four put up for certificates and three were awarded, while I think that the fourth was equally worthy of the distinction.

ATOLO.—A flower of large size and of the finest form, which is a matter not always looked at, colour of a deep pink with crimson markings at the throat.

PAINTED LADY.—A very striking and distinct flower of a creamy white colour splashed with pink and crimson stripes; both flower and spike are large. This is a very great novelty.

ALICIA.—Flower a clear French white with pencillings of lake at the base; the spike is very long and the whole flower remarkably fine.

VICTOR.—Although this did not receive an award of merit, it was, I think, as fine as any of the others, and is likely to be an acquisition; the colour is a deep salmon, shading off to scarlet. There was also another very fine flower in the collection.

CARMEN.—A soft pink and primrose colour, of large size and good substance.

If anybody has the means of comparing such flowers as these with those which held the foremost place a dozen years ago, they will be able to judge how great has been the advance made by the hybridist especially in the matter of size, which has not in this instance, as it has in many other flowers, been gained at the expense of refinement, for there is no trace of coarseness in these grand flowers.

DELTA.

HARDY FLOWERS.

In his lecture on "Hardy Flowers," read before the R.H.S. on October 12, Mr. Burrell gave some practical information, touching briefly upon culture and dwelling at greater length upon the usefulness and beauty of herbaceous plants for garden decoration. To plant small geometrical beds with large plants and of a mixed character was out of place. The grower would find plenty of material suitable for the purpose, but care was needed in the selection. He advised hardy flowers being planted on turf, and here he advised wise discrimination of variety and noted how well beds looked with a distinct variety allotted to each. In very large beds such plants as Phloxes looked well. He noted the great improvement in this class of plant. The advance made in this and most of the other hardy flowers was in a great measure due to plant lovers who advised more attention and care to herbaceous plants. Few plants were more satisfactory, as they were steadily increased. Of course, in such seasons as 1893 and this year the Phlox suffered from heat and drought, and the value of young plants was great. The striates made with Campanulas were remarkable. What was more useful was the Tufted Pansy, owing to its free flowering character and great variety of colour. He advised cutting back old plants, striking cuttings in late summer. With care the plants could be had in bloom for five months. The Pyrethrum was a splendid hardy plant. A bed of these on grass was very fine mixed with Pentstemons in variety. He advised growing masses of Campanulas, Pyrethrums, Carnations and such like plants. To layer early and plant early was his advice with Carnations. For borders he used Moss litter or peat from stables or spent Mushroom manure as a mulch in his dry sandy soil. Delphiniums he had not been so successful with. He found road-scrapings of great benefit for bulbs and advised lifting every three or four years. The perennial Bellflower he advised wintering in boxes, as they suffered in very severe winters. Rabbits were very fond of these plants and Carnations, and soon spoiled a bed if they found them out. He noted other plants, such as Veronicas and Gypsophilas. *G. paniculata* was a charming plant. He also referred to the value of the Starworts at this season of the year. He advised more attention being given to hardy flowers by cottagers, and local horticultural societies should give them more encouragement at exhibitions.

Eritrichium nanum.—I have seen some splendid plants of this Eritrichium go off in a most unaccountable manner in summer after blooming charmingly, the leaves blackening and decaying like diseased Potato leaves. Mr. Backhouse's treatment of this plant was very similar to that recommended by Mr. Wood in THE GARDEN, September 26, p. 249, including the protection by a pane of glass, but I am not sure whether the mud grit in the way Mr. Wood advises—W. M.

Pampas Grass.—Perhaps it may tend to modify "W. S.'s" impression regarding the difference between the seacoast and inland—at

least as regards this—to know that here, within half a mile of the seashore and in a dell, all the specimens perished in the arctic winter alluded to. I had several large plants of the type, two of the rose-coloured female—one of them the largest specimen I have ever seen—two of *Gynurum jubatum*, and several small plants of *G. Bertini*. Out of all these a little off-set, which has pushed from one of the rose-coloured varieties, alone re-

being open, the last two winters have not affected it, and Mr. Lyon told me it did not get the least protection in winter, showing it is just the kind of climber for planting in cold houses, &c.—J. CROOK.

Cobaea scandens alba and *Cobea macrostema*.—I send flowers of these; both were raised from seed this year. The first is a desirable variety of the old useful climber. It is, however,

its growth is quite as rampant as *C. scandens*.—J. M., Charnmouth.

PHORMIUM TENAX.

As some remarks were made in THE GARDEN (p. 233) on this plant growing at Buxton Park, I thought perhaps a few notes as to how it succeeds in Devonshire might be interesting to some of your readers. I have here both the green and variegated varieties of this handsome plant, and they thrive equally well. There are about eighteen or twenty of them, all planted in the grass on a piece of ground gradually sloping north, but open to south and south-east. The soil is loam, on an average about 6 inches deep, with a subsoil of shale inclining to clay; the composition of the sub-soil is the cause to which I attribute such luxuriance and rapidity of growth. On examining the soil I find the roots traversing the shale very freely, and, to all appearance, it is chiefly from this the plants are drawing their support. The plants get no protection whatever during winter, and when severe frost prevails the leaves are so much contracted that their appearance is more like a bunch of twigs than leaves, but the moment the weather commences to get milder the leaves of the Phormium begin to show it, and as it gets milder, so the leaves assume their normal condition, and without harm, for their growth and freedom of flowering are remarkable. The plant here illustrated was carrying at the time the photograph was taken ten well-developed spikes.

Torquay.

R. W. HODDER.

Stokesia cyanescens.—In many gardens this plant rarely expands its flowers early enough in the open to be of much service, and this season, when Michaelmas Daisies and other hardy and semi-hardy flowers have been swept off so early, will be no exception to the rule. The plant, however, is sufficiently meritorious to be grown in pots plunged in the open during summer, and then with other things taken to the greenhouse to expand its blossoms. These latter are of a blue shade and produced on somewhat freely-branched stems. The peculiar construction of the root-stock renders it difficult to propagate by division, though the plant may be abundantly increased by means of root cuttings in the winter. E. J.

Begonias.—Although, with the exception of Fuchsias, there are probably no plants that retain their beauty longer than Begonias, it is not often that this can be preserved until the third week in October, a state of things that has, however, been secured this season by the aid of breadth of tiffany on the two nights that we have registered slight frosts. I had the pleasure of inspecting part of Mr. Geeson's collection on Saturday last, and found a wonderful improvement in the doubles, not altogether so far as the flowers were concerned, although these were very fine, but in the size and substance of the flower-stalks and the erect habit of individual blooms, a white, salmon and dark red being all one could desire, the flowers standing straight up and showing a full face. Nor, as noted above, has this been effected at the expense of the size and quality of the flower. On the contrary, several of the best types had flowers that would measure between 4 inches and 5 inches in depth by only a trifle less in width, showing that both single and double Begonias of the best kinds had been tried in the flower garden at Cowdry, I inquired as to the favourites, and for this



Phormium tenax in a Torquay garden. From a photograph sent by Mr. R. W. Hodder.

mains, *Arundo conspicua* shared the same fate.—J. M., Charnmouth, Dorset.

Solanum jasminoides.—I was pleased to see this in full bloom in one of the porticos adjoining the mansion at Cricket St. Thomas, near Chard. It was planted against the back wall and trained under the rafters, and allowed to hang down freely. It is charming for such positions. Although not enclosed in a glasshouse, the front

not pure white, but of a greenish hue, and seems less exuberant than the species—not an objectionable quality. *C. macrostema* is a curious species. The yellowish green flowers are scarcely so attractive as those of the other. The most remarkable feature about them is the extraordinary length of the pistil. Why it is necessary for this plant to possess such an elongated appendage seems inexplicable. Although of more slender character,

particular work Mr. Geeson's verdict is unquestioningly in favour of singles. What can be effected with these plants in the one season from early-sown seed is in evidence on a long border in the kitchen garden, where the seedlings are planted the first season pending the work of selection. Here, although splendid types of doubles were very attractive, the eye involuntarily rested on a very fine strain of singles, large, shapely plants that were a mass of flower and nearly all of erect habit. I did not inquire as to what special preparation was annually given to ensure such vigorous growth, but imagine it is thoroughly well done.—E. B.

Disease in Begonias.—It will be remembered that some time ago a correspondence was started with reference to a disease that had badly affected Begonias, and whilst some of us were confident that the particular disease to which we referred had nothing in common with our life, others concluded that by calling in the aid of a powerful microscope we should find it the work of a very minute thrip. The correspondence was recalled to mind one day this season when looking through a small collection and noticing plants that had a touch of either enemy. "Thrips" said my companion, "we have had before and can deal with, but this is something worse." This was the form of disease referred to earlier in the year by those growers who had unfortunate experience of the same. It strikes suddenly and disastrously; a leaf will go, rotting at the junction with the stalk; sometimes half the stem and occasionally the entire plant will collapse, and the last means a total wreck, so far, at any rate, as the current season is concerned. Given a careful drying of the bulb, the latter is not injured in any way, nor does it follow that plants grown the following year from the self-same bulbs should be in any way affected; indeed, the plants may be bad one season and quite free the next, showing that some exterior influence is responsible for the disease. Returning once more to the peculiar visitation of spot, rust, black mildew, or whatever term one likes to apply to it, some of the Tufted Pansies were badly touched this year, and, strangely enough, the disease picked out two sorts growing with some seven or eight more in a large bed, and whilst the former were completely cleared of foliage—as usual, so in fact that I might have lost closely to make sure they were alive—all the rest were thoroughly clean and healthy. It is very seldom I trouble about any division of the old plants, but this year I was compelled to resort to the practice in consequence of a failure with cuttings. This failure seems to be due to the attack of a small insect known, I fancy, as the soil-worm. It is something that grows all round the stem under the ground, and also the tiny rootlets as they appear. It was probably introduced in a bit of fine leaf mould that was brought in from the woods to mix with the natural soil.—E. B.

THE NEW TULIP MANIA.

HERE is some evidence of the effect of the bestowal of new names on old groups of plants from the *Mémoire d'horticulture*, a French periodical:

Les tulipes les plus remarquables de ce bon siècle sont les Tulipes Daurianes de la maison Kestrel de Haarlem. C'est une nouvelle race de tulipes tardives, fleurissant dans la dernière moitié du mois de mai et renommée des autres variétés par des noms étranges. Ce sont des tulipes qui acquièrent leur couleur au printemps jusqu'à ce qu'elles soient pleines.

If writers on such subjects take this view, we can easily imagine the confusion in minds less learned about such things.

M. Krulige, in defending in the *Gardeners Chronicle* his ramarorean "rectifications," recently quoted by us, says:—

The origin of most garden Tulips is absolutely unknown.

Now this is wholly misleading, as the origin of the Tulips so commonly cultivated in Holland, Belgium, France, England, and other countries

is well known, at least to all whose minds are not upset by the issue of needless and confusing names. The whole question that has recently arisen is as to the soft-coloured races of the late, or durits Tulips (known botanically as *Tulipa gesneriana*), and there should not be any doubt as to the origin of these Tulips in the mind of anyone who really looks into the matter.

For example, Messrs. Vilmarin, of Paris, in their "Fleurs de Pleine Terre" state that the long-cultivated florists' Tulips come from *Tulipa gesneriana*, a fact that is also known to most botanists we have met with who have cultivated Tulips.

A friend who is much interested in these matters, and himself a large grower, [writes us as follows:]

Thousands of fine self and breeder Tulips were reared in England, and were thrown away or burned because they did not fit an artificial and bad standard. Cowell, in his "The Curious and Profitable Gardener," 1730, on page 58 illustrates this. He says: "Be care ful in the planting of seeing Tulips, for they will break if you lay them with purple flowers, and then the ridiculous to draw out and bring red colours or yellows and ding them away, for they will never break to be fine flowers. In the meantime, save such as are of a gridline colour, of a purple and of a flesh colour, as also such as have blossoms of the colour of a Peach blossom or of a Violet. These will make excellent breeders: some of them may perhaps break the first year of blooming, but then have perfect selfs, and of all colours mentioned, do not despair, for they will break sooner or later into stripes." Thus pure and beautiful Tulips were all sacrificed on the altar erected to stripes! In this way the florist really checked all Tulip development, except in his own mean and narrow field of view.

The main thing now is to rear Tulips from seed by the million, and the less striped, rear the better, and then for each colour obtain a clump to go, and be done in England as well or better than in Holland, but most of our cultivators lack the cultural technique of the Dutch, to whom bulb culture is now instinctive, as it were, or at least hereditary.

Lilium candidum.—I have been much interested in the correspondence in THE GARDEN about the difficulty of growing *Lilium candidum*. If Mr. Engleheart and other growers have not tried the very simple experiment, perhaps they would get a few healthy roots, plant them on the surface, leaving the crown exposed close to the wall in the hottest border they have. Some years since I saw a splendid group so grown, got a few of the bulbs, and planted as described in light sandy soil. These have flowered every year since, and I have been so pleased with the result that I have planted every spare space in front of the wall facing south with these fine old Lillies, and so far have not lost one, I think. Even where the wall is covered with other plants the Lillies hurt nothing, and it only adds to their beauty.—E. W. WALPOLE, Mount Usher.

After reading "E. J.'s" note on the Madonna Lily (*Lilium p.* 326) in which he suggests the possibility of the racial leaves having something to do with the disease, and inquires whether in the cottage gardens where these Lillies flourish the autumnal racial leaves are produced, I visited two of such gardens where year after year the white Lillies bloom exempt from the epidemic that lays so many of these racs low and negligible, and both have a goodly vigour and apparently healthy foliage. In one garden the Lillies grow in the full sunlight, while in the other the bed is shaded, yet both do equally well. When one sees these Lillies grown to perfection in shade and sun, in deep, moist soil, and in shallow, dry staple, and again notices them decimated by disease under conditions similar in every respect, one questions whether soil or situation has much or anything to do with the malady, and whether some unkonwn cause may not be at the bottom of the mischief. Certainly my imported root theory, though I still think there may be something in it, must be considerably modified in view of the evidence adduced of old-established bulbs suddenly failing after many years of abso-

lute health. It would seem, unfortunately, that the disease is gradually spreading and becoming more common year by year, thus inflicting a loss of the greatest that can ill be borne—the loss of the most beautiful feature of the border when the latter should be at its brightest. At such a time, I fear, the cottage garden with its clump of white Lillies, perfect in purity and in the grace of health, is a Naboth's vineyard to some of us.—S. W. F.

THE WEEK'S WORK.

KITCHEN GARDEN.

SEAKALE.—The earliest Seakale should now be in excellent condition for forcing, as the plants will have finished their growth and lost their leaves, this being already the condition with the bulk of the crop here, and the crowns are plump and fine. The earliest batches sometimes fail to start kindly, but I find no difficulty once November is in, when partial lifting, such as I recommended some weeks back, has been carried out. One of the greatest mistakes that can be made is to subject newly lifted crowns to great heat, which is sometimes done to push them forward as quickly as may be, but which has exactly the opposite effect. True, under such conditions, a spindly growth of outer leaves can be forced up, but the hearts will refuse to grow and the produce is not only valueless but brings discredit on the grower. A steady temperature of about 55° is probably about the best that can be given, but is not imperative as a few degrees higher or lower will do no harm. It is the strong heat of a forcing house to which I strongly object. Makeshift quarters answer very well indeed for the purpose, and I get the best results by utilising a small main heating pipe, which is carried through a shed, and below the floor level, to supply the heat for forcing. This main is not covered by the flooring proper, but I have a plank laid along it, so that the heat penetrates through this to give the desired effect. On the floor is placed a wooden frame-work with sides and ends about 18 inches deep, this is put into such a position that the hot water pipe runs lengthwise through the frame and equidistant from the sides. The lid of the frame, which is also of wood, is made in sections, and each section is big enough to cover one batch of about seventy crowns. If I want to hasten any particular batch I partition it off from its neighbours, but the partition is rarely brought into use. When the crowns are lifted they should have the thongs trimmed off, not quite close to the main stem, at once, and then be allowed a day or two to enable the cut surfaces to dry before being put into their forcing quarters, in which they may be packed rather closely to make the most of the room. Room should be given to allow of some sweet-heat or ordinary garden soil being put between them, and this should reach quite up to the crowns, as they start better when well surrounded with soil. When all are in position the soil should have a thorough good soaking of tepid water, one good soaking at this time being better than eight watings later. In a fortnight the produce should be fit for cutting, and it is well to remember this, especially with the early lots, as every day after this time that the plants can have the open ground will render earli forcing easier.

"More heat less speed" is often the case with Seakale. Where the old-fashioned and laborious plan of forcing Seakale where it has been grown, is still carried on this must be done by covering with pots over and around which must be placed a slowly heating bed of leaves and manure or of leaves alone, the latter being safer if slower in their action. Forcing under these conditions will be slower than by the method which I have recommended and less satisfactory, and should hardly be necessary, as in most gardens of any pretensions there may be found some suitable spot in which such an accommodating subject as Seakale may be forced with less trouble than was necessary under the old-fashioned method.

BROCCOLI.—The safe wintering of Broccoli is in many gardens a difficult matter, and in low-lying, cold districts it is almost impossible without average winter heat. On the uplands, where the crop is grown in full exposure and the soil well drained, these difficulties are lessened; still, it is wise to take due precaution in all cases, the crop, when it can be saved, being valuable. I have tried many methods of saving the plants, as from the situation of this garden they are peculiarly liable to injury, but I have found no method to equal that so frequently recommended of taking out a trench at the north side of the plot and heeling over the adjacent plants into this, covering the stems quite up to the lowest green leaves on the plants with soil taken from the north side of the next row, to allow of this in its turn being heled over, and in this way going right through the plot, so that when the work is finished all the heads are inclined towards the north and all the stem portion of the plants is covered with soil. It is specially necessary to have that portion next the leaves covered, this being the most tender part of the stem, and no harm will be done if the soil put still a little higher, as this will allow for a slight settlement without causing undue exposure. As an alternative to this method, I have had at planting time the plants put out at a sufficient distance apart to allow of their being established in an easier position, but despite of the extra height which would have been produced by the increased room given to the plants, I have lost a greater percentage of the plants treated in this way than of those which have been laid down. Probably the check given to root action in the latter case helped to make them harder, and the sloping position prevented water from lodging at the base of the leaves. Heeling over should be done soon, and will be all that is necessary to safeguard the crop at present. Later on, if frost becomes severe, a sprinkling of Bracken overhead will assist the plants, but this should not be put on too soon or left on too long, its chief use being to prevent sudden thaws in bright, sunshiny weather. The foregoing remarks apply particularly to the main crop varieties, and not to that most useful variety Veitch's Self-protecting, any plants of which that may be showing flower, should be carefully watched with a view to lifting and storing them in pits or under shelter of some kind, as I recommended lately for Cauliflowers, immediately on the approach of frost severe enough to injure the flower; indeed, it will soon be best to lift all the plants of this variety whether showing flower or not, for if lifted with a good ball, watered in, and sufficiently protected, they will carry the supply well into January, giving at the last heads that may be small, but which are sure to be very useful. Any that are now forward enough for use may be allowed to stand until the first hard frost, when they may be protected by tying the leaves well round them when dry, and if this is not considered sufficient protection, a few bits of sacking may be brought into requisition to tie over them until they are wanted. Should there still be any Cauliflowers of the Autumn Giant or Eclipse type in the open ground, it will be advisable to store all these wherever shelter can be found for them.

SUNDRIES.—The heavy and continuous rains have beaten the surface soil into a solid state and rendered it almost impervious to air. The first opportunity should be taken to run the hoes through growing crops, Spinach being particularly benefited by this being done frequently, for the constant and close treading which the soil gets when the crop is being gathered, and which is unavoidable, is altogether opposed to the requirements of the crop. The Cabbage bed, too, should be gone through in the same way, as it will not be necessary to mould up the plants yet for a week or two, and the present stirring of the surface will render it more suitable for moulding when this becomes advisable. The soil between autumn-sown Onions is generally left undisturbed throughout the winter, but I am convinced that this is a mistake, and that the Tripoli varieties are especially improved by having a fairly loose

surface soil, though the hoe should not, of course, be used near enough to the plants to loosen their roots. Early frost will have the most galling effect on an and to the Scarlet Runner, and while these and the late Peas are over, the stakes and haulms should not be allowed to remain where they are, but the former should be bundled and taken to the store yard, and the haulm should go to be burned. Asparagus, where put in as I advised for forcing, will, if required green, want careful ventilating to encourage the colouring without giving a check to growth. Where blanched stalks are preferred, see that the crowns have sufficient soil on them to get the proper length of stalk without allowing the heads to do more than just peer through the soil. This may be managed by drawing the soil already covering the plants into hillocks just over the crowns, as the roots do not want a heavy covering. Have the soil moist enough and see that the outer side linings to the pit keep a steady heat in them. I find that the crowns are moving more kindly this year than I expected they would after the long spell of dull weather, and, although, as I write, October is not over, I have Asparagus quite fit to gather. The present is probably the best time of the year to carry out any odds and ends of repair, alteration, or regulation of paths, and where these are of grass, as most of them in the kitchen garden have been an annual cutting with edging knife some time during the late autumn prevents coarse grasses from spreading to the cultivated ground. Where tiles or brick edgings are used for gravel paths, these have a tendency to settle below their proper level, and this should not be allowed to go on from year to year, as soil washes over on to the gravel in rainy weather and spoils the walks. J. C. TALLACK.

HARDY FRUITS.

ORCHARD TREES.—Owing to the abnormal amount of rain, it has been next to impossible to do anything in the way of lifting and transplanting, and, unless such work be taken in hand soon, there will be some difficulty in getting it completed before winter sets in. It is, however, far better to defer planting where the ground is heavy. Where there is a quantity of lifting to be done, every available opportunity should be taken advantage of to push it forward. Plums should be the first to receive attention, as these will have now shed most of their leaves. Cherries should come next, then Pears, leaving the Apples till last. Where trees have to be purchased from a nursery, they should be unpacked as soon as they arrive, and if it is not convenient to plant them at once, they ought to be laid in to prevent the roots becoming dry. All trees ought to be examined in case there should be any scale or American blight, and if any traces of these are seen the trees should be washed with a strong insecticide. Avoid planting too deeply, for, if the roots cannot receive due benefit from the sun's rays, trees never thrive satisfactorily, and this is when the roots are a considerable depth from the surface. On cold, heavy land very shallow planting is preferable, provided there is sufficient air to come in, and during dry weather a mulching can be given to prevent evaporation. When planting, see that all roots that may have been mutilated in lifting have a clean cut made above such bruises, that the wound may heal over quickly. Planting may seem a simple process, but how often do we see failures owing to the neglect of such trifles as these. The roots should be spread out evenly all round the trees before any attempt is made to cover them with soil, and when the holes have been filled in staking should be done at once, to prevent them rocking to and fro. It is not advisable to press the soil round the roots with the foot, particularly if of a heavy nature; rather let it become settled down by the rains. If possible, mulching should be done as the trees are planted, as this will prevent the ground being beaten hard on the surface. Owing to so much wet, root action will not be very active, but a coating of decayed manure spread over

the surface will help to exclude frost, and so prevent a greater decline in the temperature. Where there is a complicated planting in a tree orchard, it is of the utmost importance that the land be well drained, for no trees can succeed satisfactorily where the water remains stagnant about their roots. In making a selection of varieties pay particular attention to have enough that the fruit may extend over a considerable period, for it is not advisable to have a glut at one time and a dearth at another. Late varieties of both Apples and Pears are always acceptable, therefore where there is only room for a few of each choose those rather than the midseason ones. Where the situation is an exposed one a row of Damsons planted round the hedges, about 10 feet apart, will help to break the force of the wind. Where this is not practicable the hedge should be allowed to grow up at least 12 feet high. When trees are planted with a view to having grass beneath, a sufficient distance ought to be allowed between them that they may not overshadow it too much, and the stems ought to be of a sufficient height that the boughs may be out of the reach of cattle.

WALL TREES, PEARS.—Usually at this time of the year the days are fairly warm, therefore any work that can be done with comfort should be pressed forward as much as possible. As a rule pruning and training are left till frost sets in, but some mistakes can be made. Where Pear trees are affected with *sca* or the branches should be scrubbed with a half-worn-out painter's brush, using Gishurst compound or some other well-known insecticide. Where pruning has to be done, carefully trim out the spurs, particularly those on old trees that younger ones may be formed closer to the wall. When the spurs are of considerable length the wall does not afford that protection to the fruit it ought, neither is there the same amount of warmth generated by radiation as when the trees are kept within due bounds.

PLUMS.—Plums, particularly on a south wall, will now

have shed the greater portion of their leaves.

Where this is so, the trees may be pruned and afterwards dressed with some insecticide. All

spaces between the branches should also be

washed with soft soap and sulphur, as this will

kill any vermin that may be harbouring in the

crevices. The trees should then be fastened to

the walls. If wires are used, take special care to

have all old ties removed, for though these may

be sound at the present time they will in all probability become rotten before another season.

All old shreds should be examined, and where

any are defective these ought to be replaced with new ones. As before advised, care is to be taken to allow sufficient room them for the shoots to swell, and do not on any account place the nails so as to come into contact with the wood.

APRICOTS.—As soon as these have shed their leaves the trees should be taken down from the walls, and after receiving a dressing as advised for Plums, they may be fastened up again. Apricots are difficult to manage in some districts, especially in the south, for the sap is excited by the first few warm days in February, causing the trees to start into growth, when if there should be a sharp frost afterwards, they receive such a check that they do not recover, many of the branches dying off without any apparent cause. I have more than once seen the trees start freely into growth towards the end of February, and a sharp frost following in March has nearly killed them. To guard against this, the trees ought to be protected after nailing is completed and before the sap becomes active. Avoid laying in the wood too thickly, as this causes the young shoots to become overcrowded and prevents the wood maturing thoroughly. It is short-jointed growth well studded with flower-buds that are required, and these ought to be as near to the wall as possible, that it may afford them some protection. When nailing, always use boards to stand upon; these not only keep the feet from getting damp, but prevent the borders from becoming trodden down or the soil carried on to the paths.

H. C. PRINSEP.

GARDEN FLORA.

PLATE 1091.

HARDY PRIMULAS.

WITH A COLOURED PLATE OF *PRIMULA ROSEA*
VAR. *GRANDIFLORA*.^{*}

The excellent coloured plate to-day illustrates one of the most charming of hardy Primroses, and one that will soon find its way into such British gardens as do not already possess it. As I have treated the various forms of the genus *Primula* in alphabetical order, a fuller reference to the handsome species here illustrated will be found below.

Primulas requiring greenhouse culture are not included in my list, which deals only with such varieties as may be grown out of doors in the British Isles. From time immemorial the Primrose has been the welcome sign of return-

* Drawn for THE GARDEN by H. G. Moon from a plant sent by Messrs. J. & C. Croker and Sons, Sunnym-

*Primula denticulata alba.*

sible *N. series*, Aberdeen, N.B. Lithographed and cultivated. Printed by J. L. Godart, successor to Guillaume Senechal.

The Primulas are indeed a numerous family, comprising hundreds of species. From this large number I have selected only such as

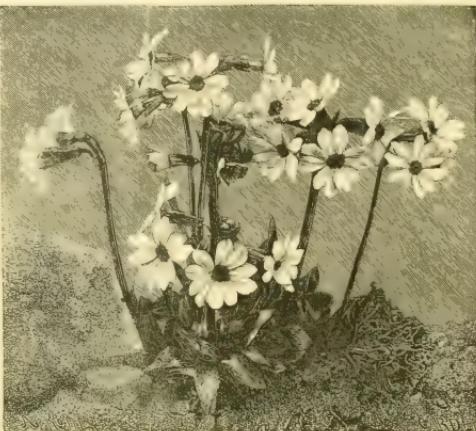
ing spring, and poets without number have sung its praises. In his ode, "On May Morning," Milton says:—

Now the bright morning star, day's harbinger,
Comes dancing from the East and leading with her
The flowery May, who from her green lap throws
The yellow Cowslip and the pale Primroses.

That near relative of the Primrose, the Cow-slip, has also its numerous admirers, amongst

can be, and have been, successfully grown in this country. A few of those mentioned are not only rare, but very difficult to cultivate, and in these cases I have specially described the difficulties; but by far the largest number, included in the list given below, may be grown as easily as any other rock plant, and many of them will flourish in an ordinary border.

The great majority of these hardy Primulas

*Primula rosea.*

them Clare, who pays homage to its beauty in the following lines:—

Bowing adorers of the vale,
Ye Cowslips delicately pale,
Uprise your loaded pale,
Untold you cups in splendour: speak!
Who decked you with that ruddy streak,
And girt your golden gems?

It is, however, not with the Primroses and Cowslips so well known to everybody that I propose to deal, but the object of my essay is to bring into greater prominence those charming varieties of *Primula* which, though hailing mostly from foreign parts, have, nevertheless, proved hardy in this country, and furnish us with a welcome addition of lovely flowers for the embellishment of our gardens. Fortunately, the British Isles possess a climate that enables us to grow sides by side plants whose homes are in Siberia, Japan, California, China, Switzerland, the Himalayas, &c.; and although great, indeed, must be the difference of the natural conditions under which these plants grow in their native country, handsome Primulas from each of the countries named have not only been acclimatised, but may be seen luxuriating in Great Britain. The sizes, the shapes and the colours of these Primroses differ very widely, but by far the greater number are not only beautiful, but also easy to

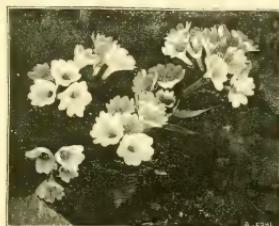
are rock plants from the mountains of Switzerland, Austria, Italy and the Pyrenees. A few are British species and a very small number come from America. Most of the more robust growing kinds are natives of the Himalayas, Japan and China.

NOMENCLATURE.

The confusion of botanical names among *Primulas* is greater, perhaps, than among any other genus of plants. Probably the very wide geographical distribution had a good deal to do with this confusion, but to make matters worse, the *Primulas* have such a tendency to hybridise and there are—especially among the European section—such an endless number of hybrids raised naturally from other hybrids, that the difficulties of the botanists are enormously increased. Thus, for instance, *Primula auriculata* (Lamark) has four or five other names given to it by various botanists. *Primula officinalis* (Scopoli) is also known by six totally different synonyms, and *Primula viscosa* (Villars) has several other names, while the names of its sub-varieties are mixed up even still more. Much of this confusion has been cleared up during the *Primula* conference held at South Kensington in 1886, and I have therefore based the names used in my appended list of varieties on the elaborate list of the species and forms of the genus *Primula*, prepared for the said conference by Mr. Daniel Dewar, then foreman of the herbaceous department in the Royal Gardens at Kew. This list includes over 600 names of *Primulas*, of which nearly two-thirds are merely synonyms. To prevent any error in the names used in my essay I have in each case appended the name of the author.

TMF. BRUNSWICK
NOV. 7, 1922



*Primula sikkimensis.**Primula intermedia.**Primula viscosa.**Primula nivalis.**Primula viscosa var. ciliata.**Primula capitata.*

In order to make my notes of more practical value to the grower of Primulas, I have enumerated the various species in alphabetical order, thus facilitating easy reference. Nearly the whole of those enumerated below are varieties of which I can speak from personal experience. The list is not by any means a complete one. I have omitted several kinds that have no particular merit and a few others with which I am unacquainted, but the sixty varieties here mentioned will probably be sufficient for most gardens unless a botanical collection is intended.

SELECTIONS.

In order to assist such amateurs as might possess but a slight knowledge of hardy Primulas, I will give one or two examples of selections made from the somewhat lengthy list given below. The following twenty-five varieties, a short description of which will be found in the alphabetical list below, may be recommended with confidence to all who might desire a collection of Primulas that would be both beautiful and easy to grow in an ordinary rock garden which contains slanting or vertical fissures as well as level spots between the groups of "rocks." All are of dwarf habit, i.e., not exceeding 8 inches or 9 inches.

<i>Primula auricula</i> (L.)	<i>Primula rosea</i> grandiflora
var. <i>Balbisi</i>	var. <i>clavata</i>
var. <i>marginata</i>	speciosissima var. <i>Clusiana</i>
<i>Bernina</i>	<i>viscosa</i>
<i>cavicina</i>	var. <i>ciliata</i>
<i>corinoides</i> Sieboldi	var. <i>c. purpurea</i>
<i>Fascinii</i>	var. <i>c. coccinea</i>
<i>farnesina</i>	var. <i>hirsuta</i> (Alioni)
<i>Heeri</i>	var. <i>nivalis</i>
<i>integrifolia</i>	var. <i>pedemontana</i>
<i>longiflora</i>	<i>Wulfeniana</i>
<i>marginata</i> (Curtis)	
<i>minima</i>	
<i>Peyritschii</i>	
<i>rosea</i>	

For those desirous of selecting say a dozen Primulas of the taller-growing kinds that would succeed either in a border or bog I would recommend the following:—

<i>Primula capitata</i> (Himalayas)	<i>Primula Poissonei</i> (China)
denticulata	prolifera (syn. imberbis) (Himalayas)
var. <i>cashmeriana</i> (Himalayas)	lateralis (Himalayas)
involutacea (Himalayas)	sikkimensis (Himalayas)
japonica (Japan)	Stuarti (Himalayas)
Palinuri (Italy)	purpurea (Himalayas)
Parryi (California)	

There are, of course, many other varieties contained in the list below, which are equally beautiful and in some cases equally easy to cultivate, but the two selections just enumerated will probably suffice for the beginner.

P. *ALLIONI* (Loiseleur).—From the Alps of Piedmont. Flowers in March or April, and is an exceedingly neat and compact species well suited for the select part of a rock garden. The circular flowers, which appear singly or in pairs, are about an inch in diameter, of a delicate rosy purple colour with white centre, and borne on very short stems, giving the plant a very compact cushion-like appearance. The leaves have the margins entire or slightly dentate, and are covered with short hairs. This charming Primula is, unfortunately, not one of the easiest to cultivate. Though it grows naturally at the roots, it is very susceptible to too much moisture on the leaves, especially during the winter months. For this reason it succeeds best when planted sideways between stones, i.e., with its roots in an almost horizontal position, so that superfluous

water can drain off from the leaves, which might otherwise succumb during a wet winter. The plant also loves partial shade, and should, therefore, have an easterly or westerly aspect. A geographical form of P. *Allionii* is found in the Tyrol, and is known to botanists as *Primula tirolensis* (Schott), but the difference between the two forms is very slight. It makes an excellent companion for other alpines of compact tufted growth, such as *Moneses hypoleuca* or *Saxifraga apiculata*.

P. *AMONA* (Hort.) is mentioned under *Primula cordatoides* var. *Sieboldii*.

P. *AURICULA* (Linn.).—The true Auricula of the Alps is very widely distributed over the mountain ranges of Central Europe. Its sweet-scented, yellow flowers are borne in a dense umbel, springing from a stiff, wiry stem 4 inches to 5 inches in height; the leaves smooth on the upper surface, but not nearly towards the margin and on the under-side. They are of a fleshy nature and glaucous in appearance, each from 3 inches to 4 inches long and 2 inches wide, sometimes slightly dentate. P. *Auricula* is easily grown for the rock garden or the border. Among the rocks it is most effective on sloping ground, and prefers calcareous soil. The wild yellow Auricula just described was doubtless one of the parents of the cultivated garden Auriculas so dear to the florists, though the exact parentage is still a matter of doubt. Darwin believed the florists' Auricula to be derived from *Primula pubescens* (a hybrid between P. *Auricula* and P. *viscosa*), while no less an authority than Mr. J. G. Baker believes P. *pubescens* to be the progenitor of "alpine" *Auriculas* only, and that the great mass of garden *Auriculas* originated from the wild species P. *Auricula* and its varieties *Balbisi*, *venusta* and *Göblii*. According to Kerner's "History of the Auricula," both P. *pubescens* and P. *Auricula* were cultivated on the Continent in the sixteenth century, and by the middle of the seventeenth century several cultivated forms of P. *pubescens* of various colours were known. I will make no attempt to describe the numerous varieties of garden *Auriculas*, but will merely mention that cultivators divide them into "florists' flowers," including green-edged, grey-edged, white-edged and selfs, all of which are thickly covered with the mealy matter called paste, and "alpines" distinguished by an unmealed centre and richly shaded petals.

P. *AUREA* VAR. *BALBISII* (Lehm.) is distinguished from the type of P. *Auricula* by having scented flowers of a deep golden-yellow, borne on a rather long, wiry stem. The leaves too are different, being of a deep sap-green, covered with a few glandular hairs. Its native habitat is the mountain ranges of the Tyrol and Northern Italy. In our rock gardens it is a most useful plant, flowering in April or May, but requiring a more shaded position than the type. This variety is also known as P. *ciliata* (Moretti).

P. *AURICULATA* VAR. *MARGINATA* is another handsome sub-variety, distinguished from the wild *Auricula* by its leaves, which are very densely covered with fawnish powder and show a conspicuous white margin. This also is of the easiest cultivation, and is a most suitable plant for the rock garden. It must not be confounded with P. *marginata* of Curtis, which is quite distinct and of a different colour.

P. *AURICULATA* (Lamarck) comes from Siberia. The flowers are purplish rose, with white centre. The inflorescence is a drooping umbel, consisting of about six flowers an inch in length, on a stem about 4 inches high. The leaves have a smooth surface and create margin. In the rock garden P. *auriculata* does best when it has an easterly or westerly aspect and a position on level ground with abundance of moisture and a soil consisting of peat and loam. It is also known under the names of P. *longifolia* (Curtis) and P. *macrophylla* (Koch).

P. *BALBI* (Lehm.) is included under P. *Auricula* var. *Balbisi*.

P. *BERNINA* (Kerner).—This charming little Primrose is probably a natural hybrid between

P. *viscosa* and P. *birsuta*. It is a scarce variety, and its native home is Switzerland, though possibly it may occur elsewhere. I found it growing on the north side of a slope in the upper Engadine, by the side of its supposed parent and in company with Azalea procumbens and Pedicularis Jacquinii. It flowers freely in May and its rosy purple blossoms are comparatively large. The leaves are sessile and smaller than those of P. *viscosa*, a slightly hairy, with create margin. It succeeds best in a somewhat moist, half-shady position on rockwork.

P. *CALYCINA* (Duby).—From the Alps of Lombardy is a very dwarf variety of easy culture, and succeeds well in the rock garden. It has umbels of from three to five rosy-purple flowers springing from a short stalk bearing an involucle of linear bracts. Its flowering time is generally May or June, although during the past dry season it would flower in May 1. The leaves are comparatively large, and have an almost encrusted appearance owing to a horny margin. It thrives well in a somewhat heavy soil and in a position at least partially shaded from the sun. P. *glaucescens* (Moret) and P. *integripolia* (Walffen) are synonymous.

P. *CAPITATA* (Hooker).—Large irregular groups of this variety arranged in a rather shady border or on the shady side of a rock garden make a most effective display, usually rather late in summer. The present season has been an exception, and here at Exeter the flowers were fully developed in June. The flowers appear on a stem 6 inches to 8 inches high, and form a compact globular head 1½ inches to 2 inches in diameter. The colour is a deep violet-blue, thickly covered with white mealy powder especially towards the centre of the head of flowers and on unopened flowers. The leaves are wrinkled, of a pale green colour, dentate at the margin and oblong lanceolate in shape. Unfortunately, P. *capitata* in spite of its undoubted beauty is a capricious plant and apt to die off without the slightest warning. For this reason it should be treated as a biennial, and the seed should be sown as soon as ripe. Good loam, a little sand and leaf mould seem to suit it. The principal conditions to its success appear to be a good deal of continuous moisture and at least partial shade and shelter. A dry and exposed position is absolutely fatal to it. Some plants sent by the Rev. C. Wolley-Dod did very well at Exeter, but better still in Messrs. Veitch's Exminster nursery where they could have more shelter, more shade and more moisture. Some botanists consider P. *capitata* only a small form of P. *denticulata*, but it certainly is not of such easy culture as that variety.

P. *CARNIOLICA* (Jacquin) is a native of the Alps of Austria and Northern Italy, and rather rare and distinct. The flowers are bluish-purple or lilac, with a white centre. Neither calyx, corolla nor leaves show traces of the mealy powder found in so many of its congeners. The leaves are oblong with margin entire or rarely dentate, narrow towards the base, about 2½ inches long, very smooth, and arranged in a rosette. A sub-variety called P. *carniolica* *multipetala* is distinguished by larger flowers, and is burdened with the additional synonyms of P. *Freyeri* and P. *Jellenkiana*. The position of P. *carniolica* should be a half shady one, and it should be planted sideways on sloping or perpendicular rocks.

P. *CASHMERICANA* is mentioned below as a variety of P. *denticulata*.

P. *CILIATA* (Schott) is a variety of P. *viscosa*, and has been treated under that name.

P. *CLOUSIANA* (Tsch.) is mentioned under the name of P. *speciosa* var. *Clausiana*.

P. *CORONOIDES* (Lam.).—Coming from Siberia and Northern Japan this charming Primrose has deservedly found a home in most English gardens, not only on account of its hardiness, but also on account of its beauty and easy culture. It will practically grow anywhere where it is not too much exposed to rough winds. It has large clusters of deep rosy flowers disposed in an umbel and borne by a wiry stem about 8 inches long.

* For a warm, sheltered position.

The leaves are soft, wrinkled, slightly lobed, and very much resemble those of *Cortusa Matthioli*. *P. cortusoides dentata* (Don) is a sub-variety, with pale lilac flowers.

P. CORTUSOIDES VAR. *SIEboldii* (Morren), syn. *P. amena* (Hort.).—This is a great improvement on the type, and was introduced from Japan. It is larger and bolder in appearance, and its colour varies from the purest white to the deepest crimson-mauve or purple. From it a very large number of named hybrids have been raised, and most of them are excellent for planting in groups of considerable size. As they flower very early in the spring and die down late in the summer, it is well to intermix such groups with plants like *Spiraea filipendula* or others that flower at later periods.

P. DENTICULATA (Sibth.) A handsome and noble Himalayan species allied to *P. capitata*, but more robust and larger in all its parts. The flowers, produced in large round heads, are deep lilac in colour, borne on stems 10 inches to 12 inches high, and opening about April. Sometimes the blossoms develop in winter and are cut by the frost, but a good remedy against such precociousness appears to be Mr. Wolley-Dod's method of cutting the crowns into small pieces during the autumn, and thus retarding the blooming season till the danger of severe frosts has passed. The leaves are oblong-lanceolate in shape, about 8 inches long, and have a wrinkled appearance, with a denticulate margin and hairs on both sides.

P. DENTICULATA FULCHERRIMA (Hort.) is still more robust than the type, and has flowers of a deeper colour in more compact globular heads.

P. DENTICULATA VAR. *CASHMERICANA* (Munro) is another handsome variety with flowers of a light purple colour, with yellow eye, and arranged in a compact globe, borne on a stout stem about 9 inches high. The leaves are serrated and wrinkled, covered on the under-side with mealy powder of a bright yellow colour. It is an excellent plant for massing in the border or for planting on moist, level spots in the rock garden.

P. ELATIOR (Jacquin), syn. *P. veris* var. *elatior*.—This is the true Oxlip found wild in abundance on the Continent, but not so plentiful as a wild British plant. The flowers are disposed in umbels of a sulphur-yellow colour and on stems 8 inches or 10 inches high. The leaves are ovate and covered on the under-side with short hairs. As its natural home is in moist woods or meadows, it is a plant more suitable for a wild garden or a moist, half-shady border than the rock garden. A sub-variety called *P. elatior* var. *amena* (Ledesme) has purple flowers. There exist also at least a dozen of other sub-varieties.

P. FACCINII (Schott).—A very dwarf species resembling *P. minima*. The flowers are comparatively large, of a rose purple colour, appearing in twos or threes and opening in May or June. The leaves form bright green rosettes and are coarsely serrated. It is a rare plant, found mostly on the granite rocks of Southern Tyrol. In the rock garden it is easy to cultivate in a half-shady position. Its supposed parents are *P. minima* × *P. spectabilis*.

P. FARINOSA (L.).—The Bird's-eye Primrose is a British plant, though rather rare in England. It is very appropriately named, for the whole plant is densely covered with a white mealy powder, which gives it quite a silvery appearance. The lilac flowers have a yellow centre, and appear in a dense umbel on stems about 6 inches to 8 inches in height; the leaves are about 2 inches in length. It usually flowers from April to June. In the rock garden *P. farinosa* enjoys a damp, half-shady position, and might be treated as a bog plant if care is taken that it is not overrun by plants of faster growth. In planting, care must be taken not to plant too deeply, as during winter nothing remains of the plant but a large bud close to the ground, which would be sure to rot if allowed to be covered by soil. Sausages are exceedingly fond of these buds, and will surely demolish them if unprotected. *P. scotica* (Hooker), a variety of

the former, has its flowers of a deeper colour and on shorter stems than the type.

P. FLÄKEANA (Schrard.).—A pretty hybrid, the parents of which are supposed to be *P. superglutinosum* × *P. minima* (Kerner). It is found in Tyrol at an altitude often exceeding 7000 feet. The flowers, which appear from three to five in an umbel on short stems seldom more than 2 inches high, are of a deep lilac colour, and spring from an involucre of lanceolate leafy bracts. The cuneate leaves are dentate towards the middle and not much more than inch in length. Its synonyms are *P. minima* (Reichenbach, not Linnaeus) and *P. hybrida* (Gussone). In the rock garden it succeeds well among bits of granite.

P. FORSTERI (Stein).—Another hybrid (*super-gutinosum* × *viscosa* var. *birsuta*) from the Alps of Central Tyrol. The flowers, borne on a very stout stem, are of a deep rose colour with a white centre. The leaves are much larger than those of *P. minima*; they are hairy on the upper surface as well as on the serrated margin.

P. GLAUCESCENS (Moret) is synonymous with *P. calcina* (Duby), and has been mentioned under that name.

P. GLUTINOSA (Wulfen).—This is a true rock plant, and comes from the granite regions of the Tyrol, where its flowers are of a brilliant purplish-blue colour, borne on stems about 4 inches high and appearing in umbels of three to five blooms. It is one of the most beautiful of alpine Primroses, but, unfortunately, it seems somewhat difficult to cultivate and rarely does well in English gardens. It generally does best in a half-shady position in well-drained soil.

P. GOBLII (Kerner).—A rare hybrid (*super-gutinosum* × *viscosa*, Stein), with flowers of a dark brownish purple colour and silvery leaves. It is closely allied to *P. auricula*, and should have the same treatment.

P. HERBIF (Brügger).—A very pretty hybrid between *P. viscosa* *hirsuta* × *integerrima*, which is generally found growing by the side of its parents. I saw it in that company growing near the Flüela Hospiz, not far from the Schwarzhorn glacier, and although it probably occurs in other parts of Switzerland, it is a rare plant. The flowers are large, purple, and appear in clusters of five or six on a rather short stem. The plant is of dwarf, compact growth, and has spatulate-lanceolate leaves sparingly covered with a downy pubescence. It succeeds in peaty soil mixed with peat, and should be associated with the smallest alpines.

P. MINIMA (L.).—The Fairy Primrose is a native of the European Alps, and is found in various countries. As its name implies, it is very dwarf, but it bears a comparatively large rose-coloured flower about the size of a shilling. The leaves are very shiny, scarcely more than an inch in length, and deeply crevate or sometimes dentate. In the rock garden it does well in gritty loam mixed with peat, and should be associated with the smallest alpines.

P. NIVALIS (Hort.).—This is a variety of *P. viscosa*, and I have therefore described it under that name.

P. NIVALIS (Pallas).—A very rare variety from the Caucasus, described a few years ago in Regel's "Gartenflora." I have, however, never found it in any English gardens, and probably its requirements are such as could not be given to it in this country.

P. PEDEMONTANA (Thomas) is a variety of *P. viscosa*.

P. OFFICINALIS (Scopoli), syn. *P. veris* var. *officinalis* (L.).—This is the well-known Cowslip, which needs no description, and is supposed to be the origin of the Polyanthus now grown in almost every garden. There are about a dozen other synonyms not worth mentioning.

P. PALNUCI (Petagna).—A native of Italian mountains, with yellow flowers arranged in an umbel. The stem is 9 inches to 15 inches high, and is covered with mealy powder. The leaves are very large, and the plant altogether grows very vigorously, but is not so showy as many others.

P. PARRYI (A. Gray).—A California variety, still scarce in this country, but of undoubted merit. It bears on a stem 12 inches to 15 inches high a panicle of bright purple flowers with yellow centre. The leaves are about 9 inches long, oblong in shape, sessile, with slightly dentate margins. It requires a rather moist, peaty soil and partial shade. In such a situation it will flower and seed freely.

P. PEDEMONTANA (Thomas) will be found mentioned under *P. viscosa*, of which it is a sub-variety.

(Lindley) is distinguished from the type by a more inflated corolla and by its longer leaf-stalks.

P. JAPONICA (A. Gray), syn. *P. pyramidalis* (Siebold).—This noble Japanese form is a giant among Primroses. Its deep crimson flowers sometimes vary in shade of colour. They are arranged in successive whorls and form a magnificent spike, lasting in bloom from May to August where planted in masses. Three things are most essential to the successful cultivation of this most beautiful hardy perennial—namely, a deep soil, plenty of moisture and shade. I recently saw a border of *P. japonica* 150 yards in length and about 1 yard wide on the margin of a pond shaded by an avenue of Lime trees at Endymion Park, Cornwall. The conditions there seem to exactly suited its requirements that it luxuriates with a vigour not seen under less favourable circumstances. The flower spikes attained a height of 2 feet to 2½ feet, and from May till late in summer there has been a successive mass of brilliant flowers. There is also a fine white variety of this stately plant.

P. LONGIFOLIA (Allioni) comes from the mountains of Southern Europe, and is best described as an enlarged *P. farinosa*, with cubaril-like flowers each 1 inch or so in length. It grows well on moist, level spots and should be treated like *P. farinosa*.

P. MARGINATA (Curtis), syns. *P. auricula* (Villars, not L.) and *P. crenata* (Lamarck), from the Alps of Dauphiny and Piedmont. This must not be confounded with *P. auricula marginata*, which has yellow flowers and is quite different. *Primula marginata* has flowers of a purplish rose colour, with a mealy centre, and appearing in umbels of three or four blooms on a very short scape; the leaves have a white, mealy margin. It succeeds well in the rock garden if planted in the same way as recommended for *P. Allioni* and others—i.e., sideways, with its roots in an almost horizontal position.

P. MINIMA (L.).—The Fairy Primrose is a native of the European Alps, and is found in various countries. As its name implies, it is very dwarf, but it bears a comparatively large rose-coloured flower about the size of a shilling. The leaves are very shiny, scarcely more than an inch in length, and deeply crevate or sometimes dentate. In the rock garden it does well in gritty loam mixed with peat, and should be associated with the smallest alpines.

P. NIVALIS (Hort.).—This is a variety of *P. viscosa*, and I have therefore described it under that name.

P. NIVALIS (Pallas).—A very rare variety from the Caucasus, described a few years ago in Regel's "Gartenflora." I have, however, never found it in any English gardens, and probably its requirements are such as could not be given to it in this country.

P. PEDEMONTANA (Thomas) is a variety of *P. viscosa*.

P. OFFICINALIS (Scopoli), syn. *P. veris* var. *officinalis* (L.).—This is the well-known Cowslip, which needs no description, and is supposed to be the origin of the Polyanthus now grown in almost every garden. There are about a dozen other synonyms not worth mentioning.

P. PALNUCI (Petagna).—A native of Italian mountains, with yellow flowers arranged in an umbel. The stem is 9 inches to 15 inches high, and is covered with mealy powder. The leaves are very large, and the plant altogether grows very vigorously, but is not so showy as many others.

P. PARRYI (A. Gray).—A California variety, still scarce in this country, but of undoubted merit. It bears on a stem 12 inches to 15 inches high a panicle of bright purple flowers with yellow centre. The leaves are about 9 inches long, oblong in shape, sessile, with slightly dentate margins. It requires a rather moist, peaty soil and partial shade. In such a situation it will flower and seed freely.

P. PEDEMONTANA (Thomas) will be found mentioned under *P. viscosa*, of which it is a sub-variety.

P. PEUVRIESCHI (Stein).—A hybrid between P. *Auricula* and P. *viscosa*. It is very much like the latter, only of a little stronger growth in all its parts. The name P. *viscosa major*, by which it is also known, seems the more appropriate, but is not approved of by botanists.

P. POISSONI (Franchet).—This handsome Chinese variety is of rather recent introduction and a decided acquisition. It was found in the mountains of the Yunnan district, but had proved perfectly hardy. A coloured plate of this variety appeared in THE GARDEN some time ago. In Messrs. Veitch's nurseries, at Exeter, it withstood even the severo winter of 1894 without protection, and as it is both handsome and easy to cultivate, it should soon be in every garden; it prefers a moist situation and seems not particular as to shade. The flowers are bright rose, with a slight flush of mauve, and have a yellow centre. They are fully the size of a shilling and are arranged in verticillate tiers of eight or twelve blossoms, each after the style of P. *japonica*, but the tiers are a little further apart than the last-named variety, showing often two inches or more of stem between the tiers. It grows about 12 inches high. The leaves are pale glaucous green, about 5 inches or 6 inches long and 2 inches wide, not wrinkled like those of P. *japonica*, but perfectly smooth, the margin minutely, but very closely toothed, the midrib widened very considerably towards the base of the leaf and of a pink colour.

P. PROLIFERA (Wall.).—This, better known under the name of P. *imperialis* (Jungtuhu) is a tall Himalayan species allied to P. *japonica*, but with yellow flowers arranged in whorls. It grows about 3 feet high. It is found in Java and is perhaps too tender for the north of England, but in sheltered places in Cornwall it will grow to a height of about 3 feet. The large leaves have a denticated margin. It is still a very rare plant, and it certainly is more tender than P. *japonica*. Posty *scit* seems to suit it best.

P. PUBESCENS (Jacquin).—A cross between P. *Auricula* and P. *viscosa hispida*. This is one of the supposed parents of the garden *Auricula*. It is found on the mountains of Tyrol, near the Gross-Glockner, and probably also elsewhere. The rose purple flowers appear in very large clusters and sometimes have a mealy throat. The leaves are oblong, broadly serrate-dentate, and hairy at the margin; they are generally about 3 inches long and about 1½ inches wide. P. *pubescens* was introduced over 200 years ago by Clusius, and it frequently shows its hybrid character by sporting.

P. PURPUREA (Royle) is a variety of P. *Stuartii*, under which name it is mentioned below.

P. REEDI (Duthie).—This is another gem from the Himalayas, but unfortunately one that is very difficult to acclimate in this country. It bears a scape about 6 inches long, covered with drooping, sweet-scented, ivory-white flowers on short pedicels, reminding one almost of Campanula. It is an elegant and desirable species, but very rare, and as a rule it dies after flowering. A few years ago I saw a plant in bloom in the garden of Mr. H. Ewbank at Ryde, Isle of Wight. It was flowering profusely, and I was told that the secret of success was in covering the crown with silver sand. The plant died however, even under Mr. Ewbank's skilful treatment, and I am afraid it is practically of only annual duration.

P. ROSEA (Royle).—A charming Himalayan species now only too well known in English gardens. It grows generally from 6 inches to 8 inches high, and the flowers, which are disposed in umbels of six to nine blossoms, each appear on a rather stout scape, and are rose carmine in colour, with a yellow throat. The leaves are very smooth, about 4 inches long, and serrated at the margin. It is a charming plant for a bog garden and luxuriates in any damp, light soil. I have seen it flourish in a sunny bog-bed even better than in a shady one, but it will not endure a dry, sunny position. Few things in the rock garden are more delightful than this bright gem, which is so easy to cultivate and flowers so abundantly every spring.

The plants are very easily grown from seed or increased by division of the root-stock.

P. ROSEA GRANDIFLORA (Hort.).—This is the subject of the accompanying coloured illustration, which will be readily acknowledged to be a great improvement on the type. Not only are the flowers more robust and borne on taller and stouter stems than those of the ordinary P. roses, but the colour is a much deeper carmine-crimson. The plant from which the accompanying illustration was prepared came from the nurseries of Messrs. Cocker and Sons, Aberdeen, but this improved variety is also growing well in the nurseries of Messrs. R. Veitch and Son, Exeter. Being as easy to cultivate as the typical P. roses, this improved variety will soon find its way into every garden, and deserves to become popular.

P. SIKKIMENSIS (Hooker).—A noble Himalayan species inhabiting swamps of Northern India at very high elevations. The accompanying illustration shows the leaf and the drooping habit of an arching stem often 2½ feet to 3 feet long. The leaves are wrinkled and have the midrib widening towards the base. P. *sikkimensis* is an excellent plant to P. *japonica*, and is one of the few plants that will grow in the densest shade provided a rich, deep soil and abundance of moisture are supplied. For the margin of a shaded pond few things are more effective. It grows freely from seed.

P. SPECIOSA (Trattinicus).—A native of the Tyrol, growing about 6 inches high, and bearing umbels consisting of about seven or eight rose purple flowers. The leaves are smooth and have that margin entire and horny. It is a good rock-garden plant of easy culture.

P. SPECIOSA VAR. CLUSIANA (Tausch).—A native of the calcareous rocks of the Eastern Alps, where it is often found at high elevations. It is, nevertheless, one of the easiest to cultivate in the rock garden. The flowers are large, bright rose crimson with white centre, and borne in large umbels on a scape about 8 inches or 9 inches high. The leaves also are more robust than those of the typical P. *speciosabilis*. It does well in chalk.

P. STUARTII (Wallach).—A Himalayan species, growing about 15 inches high. The flowers are of a deep golden yellow and disposed in umbels; leaves about 10 inches or more long, with a serrated margin. The under side is covered with mealy powder, but the upper side is smooth. It does not flower till the second year.

P. STUARTI PURPUREA (Royle).—This is also a Himalayan species, much resembling the former, but the colour of the flowers is a rich purple, and under favourable conditions twenty-five to forty blooms are produced in an umbel. The plant requires plenty of moisture and at least partial shade, though winter it is apt to rot if not protected against too much rain.

P. VISCOSA (Villars).—This is also known as P. *villosa* (Wulfen). It is found in abundance in the mountains of Central and Southern Europe, including the Pyrenees. It is one of our prettiest rock plants and one of the easiest to grow. The flowers are bright rose purple, and appear in large clusters. They are bluntly serrated. It objects to chalk or lime, and if planted on limestone rockwork, a few bits of granite or broken sandstone mixed with the soil will be found of great advantage.

P. VISCOSA VAR. CILIATA (Schrank).—An excellent variety of the former and one of our best rock plants, more robust than the type and more free-flowering. The flowers are purplish rose in colour and appear in large clusters. The leaves also are larger than those of P. *viscosa* and are fringed with glandular hairs at the margin. The sub-varieties P. *v. ciliata purpurea* (Hort.) and P. *v. ciliata coccinea* (Backhouse) are distinguished by flowers of more brilliant crimson colours. Several named hybrids of P. *v. ciliata* are also excellent rock plants and easy to cultivate.

P. VISCOSA VAR. HISSETA (Allioni).—This has pale mauve flowers with a white centre. The leaves are dentate and covered by a soft pubescence.

P. VISCONA VAR. NIVALIS (Hort.).—A charming sub-variety with pure white flowers, excellent for level spots in the rock garden, where it flowers profusely in early spring.

P. VISCONA VAR. PEDEMONTANA (Thomas).—A very desirable variety bearing heads of rose purple flowers with yellow eye. It is easily grown and should be in every rock garden.

P. VULGARIS (Hudson) (syn., P. *acaulis*, Jacquin).—The common Primrose of our woods and banks, a description of which is superfluous. Neither need I refer to the numerous garden forms in all colours and with single and double flowers, the names of which alone would fill many pages.

P. WULFENIANA (Schott).—Another excellent rock plant preferring calcareous soil. The flowers are large, deep purple, disposed in umbels of about five flowers each. Being one of the easiest to grow, it should be in every rock garden. It does best planted in a slanting position.

Elmside, Exeter.

F. W. MEYER.

ORCHIDS.

CELOGYNE CRISTATA.

I SHALL be glad if you will kindly give me some hints as to the cultivation of this Orchid. I do not succeed with it so well as I should like.—M. R.

. The most frequent mistake in the culture of this Orchid is repotting too often, the nature of the roots being different to that of those of many other kinds in that they are longer lived and more persistent. It also appears to derive its sustenance more directly from the roots, and when these are disturbed or damaged in any way the result is at once apparent in the shrivelled pseudo-bulbs. In this the plant differs from Dendrobes of many kinds, Cattleyas and others that seem to draw more sustenance from the atmosphere. The growths in this latter case seem to be more dependent upon the tier of roots that comes from each individually, the older ones dying as a rule after the first year, so that if repotting takes place just at the time new roots are being emitted the plant scarcely feels the removal. When repotting is seen to be necessary it must be carefully done, and while leaving nothing behind on the roots that is likely to decay or become sour, disturb them as little as possible. It is best to give a fairly large pot of pan and a rather thin layer of compost, as it is easy to add to the latter as it becomes necessary without again disturbing the plants. Fill up to within a couple of inches of the rim with clean crocks for a pan say 12 inches in diameter, using rather less or more for larger and smaller sizes. Many successful cultivators use a good percentage of loam in the compost for this Celegyne, but I would not advise its use by beginners in its culture. The compost I use even for large plants 4 feet across is made up of about equal parts of peat fibre, Sphagnum Moss, and half decayed leaf soil, plenty of large rough lumps of charcoal being added as potting materials. In this light and well aerated medium the roots run very freely, and the plants show, by the healthy deep green of the foliage and the large pseudo-bulbs, that the treatment is to their taste. At least once in two years large plants require to be gone over and all old and shrivelled pseudo-bulbs cut clean out with a sharp knife. They must be cut close down on the rhizome, yet without injuring the latter, for if carelessly done and part of the pseudo-bulbs be left on, this soon decays and makes the surrounding compost sour. At the same time the last made pseudo-bulbs may be pegged down,

the plants require to be gone over and all old and shrivelled pseudo-bulbs cut clean out with a sharp knife. They must be cut close down on the rhizome, yet without injuring the latter, for if carelessly done and part of the pseudo-bulbs be left on, this soon decays and makes the surrounding compost sour. At the same time the last made pseudo-bulbs may be pegged down,

adding a little new compost where necessary and arranging the leaves so as to form a well-balanced specimen and leave no bare places. The closer proximity of the bulbs to the new material thus brought about will strengthen them considerably, and many an old and neglected specimen has been rejuvenated in this way without disturbing a single root of any consequence. Smaller plants in poor condition, on the other hand, ought not to have any of the pseudo-bulbs removed. They require them all, and to cut one away is to weaken the plant. I do not mean to say leave any on that are quite decayed and dried up, as these are of course of no benefit to the plant, but any that show the slightest signs of life or are at all likely to contain any sap must be left. The same with the roots. Leave every bit that has any life in it, and where possible keep a little of the best of the old material about them. Fix them firmly in the compost mentioned above and place the plants at once in a nice moist and warm atmosphere. When re-established, the best of all positions for the plants is a shady, moist house, kept not quite so high as the usual Cattleya temperature, where they have always plenty of air moving about them. Keep the foliage free of insects and water freely at the roots. This will induce a free, yet solid growth, and such plants are sure to bloom profusely at the proper season. For very large old specimens a little weak manure water may be helpful when the bulbs are finishing, but this is not necessary for small plants. Although during the resting season a little care is necessary with the water supply, the roots must never be allowed to become quite dry, this treatment being very weakening and unnecessary.—H. R.

Laelia Dayana.—This is a variable and beautiful Orchid, a native of Brazil. The blossoms occur on terminal spikes, usually one-flowered, and last about a fortnight in good condition. The sepals and petals are purplish rose, the lip white in the centre, with radiating lines of purple, and a purple blotch in front. Grown at the cool end of the Cattleya house it blooms during the present and succeeding months, and has a bright and pretty effect in the flowering house. It is best grown in small pans or baskets in a compost of good peat and Sphagnum, only a little of this being needed over abundant drainage.

Cypripedium amandae.—Though one of the older hybrids, this is very distinct and pretty, and the plant, moreover, is of free and vigorous growth. The dorsal sepal is greenish yellow, margined with white and having many stripes of green and purple. The petals are reddish brown above, yellow below, the pouch bright yellow with a suggestion of purple and veined with green and purple. It thrives well at the cool end of the Cattleya house in a compost of equal parts of peat, loam and Moss, with a plentiful addition of crocks, and must be kept well watered all the year round. *C. amandae* was raised by Mr. T. C. Bowring, of Windsor, and first flowered in 1889.

Laelia acuminata rosacea.—This is a pretty, deeply coloured form of the type, with flowers of a delicate mauve-purple on the sepals and petals, the lip having a deep maroon blotch in the centre. These occur at the apex of growth on spikes about 15 inches in length. It has a very natural appearance grown on rough blocks of Apple or Pear wood with the bark left on, these being suspended from the roof and the plants allowed to take their own way, only a little Moss being needed above the roots. So treated, I have seen a large plant with upwards of a dozen spikes thrown out in all directions, and a most beautiful plant it was. It is a native of Mexico, and must be treated as advised for *L. anceps*.—R.

Oeotoglossum Rossi.—This is now in bloom in variety, and common as it is, yet it

could ill be spared from our collections. The flowers last a long time in good condition, and fortunately do not distract the plants as is the case with some other kinds. The plant is about four feet together on short erect spikes and very so tall that to describe one form would be misleading. It is one of the easiest to grow, thriving well in the coolest house in small pots or pans in the usual mixture for *Odontoglossa*. It requires plenty of water all the year round, especially when the spikes are forming in the centre of the growths. It is a native of Mexico and was introduced in 1842.

Cypripedium niveum.—Very chaste and beautiful are the flowers of this delightful little Cypripedium, and the fine foliage enhances their beauty considerably. They occur on short stems, usually singly, and are of the purest white, with the exception of a few small brownish dots on the sepals. Like all in this section, the roots like to ramble over rough pieces of limestone or some similar material, for even if there is no virtue in the lime, the rough, uneven lumps form just the kind of root-hold that suits this Cypripedium. At this surfacing only of the usual mixture recommended for Cypripedias may be given, and the plants should be afforded a shady and very moist position in the East India house and kept moist at the root all the year round.

Dendrobium chrysanthum.—The long, pendulous wreaths of flower produced by this Orchid when grown in a natural manner are very beautiful, and it is a great pity that they do not last more than about ten days or a fortnight. The petals are bright orange-yellow, the downy lip being similar, with deep shining maroon blotches, one on each side, at the base. These occur at every node in bunches of two or three and are delicately scented. It is not by any means constant in its time of flowering, but, as a rule, as soon as the blossoms are past, the eyes at the base of the stems push again and growth recommences. If the plants are in need of repotting, do this when the young shoots have attained 2 or 3 inches in height and just before they commence to root. If this is in early spring, so much the better, but as often as not the plants are in full growth at mid-winter. This is not at all harmful if they are carefully treated and not overwatered at the root, though, of course, progress will not be quite so rapid as in the summer months. The roots are large and require a well-drained and well-aerated compost. Baskets are very suitable for the growth of this Dendrobium, which may be grown with every prospect of success in either the East India or Cattleya house. It is an old species in cultivation and comes from Burmah.

CALANTHE BULBS ROTTING.

I SEND two pseudo-bulbs of *Calanthe Veitchii*, hoping that you can inform me why they have rotted off at the base in this unusual manner. I have grown some two dozen plants of this Orchid for the last seven years with perfect success, but this season five plants have failed in the manner shown. The Calanthes are potted in good loam, roots covered with Sphagnum and peat, with a few quarter-inch bones over the crocks. No feeding manures are ever given beyond one or two applications of very diluted cow manure water while the flower spikes are growing. The remaining twenty plants of *Calanthe* have magnificent bulbs and are throwing fine spikes of bloom.

* * * This troublesome rot is of very frequent occurrence with *Calanthes*, and in the present case appears to be due to overfeeding. *Calanthe vestita*, one of the parents of this hybrid, is seldom found in a state of nature other than as an epiphyte, and is usually collected from the arms and trunks of trees. Under cultivation it is found to do better treated more like a terrestrial plant, and is given a very substantial compost and frequent doses of liquid stimulants. From a commendable desire to increase the size of the pseudo-bulbs and the number and quality of the

blossoms, cultivators often do too much to this, with the result that the plants make a very fine growth for a time, but become gorged, as it were, with food that the roots cannot assimilate and ultimately fall a prey to disease. It is far better to be content with medium-sized pseudo-bulbs for an indefinite time—the largest bulbs do not always produce the finest flowers—than to have them exceptionally large for a time and run the risk of having the stock decimated by this disease, which time after time I have noticed among plethoric pseudo-bulbs such as "Lymminster" send. The infected bulbs should either be thrown away or cut up for propagating, removing all decayed portions of course, giving the healthy plants a rather weaker dose of compost next season. Before giving any liquid manure, make sure that the pots are quite full of roots and again discontinue its use by the time the pseudo-bulbs have done swelling before the flower-spikes appear. In fact, unless very small pots are used, I should be inclined to leave out liquid stimulants altogether for a season or two, and by keeping the plants from the first in an almost unshaded position, encourage them to divide and ripen the pseudo-bulbs more thoroughly. After the foliage has fallen, no water is required. The pseudo-bulbs, if ripened as noted, containing all the nutriment necessary to bring the flowers to perfection. The roots, moreover, have by this time lost the power of carrying moisture to the plant, and if water is poured about the bases of the pseudo-bulbs it only hastens their decay. It is imperative that *Calanthes* be kept warm and dry during winter, the temperature on no consideration being allowed to fall below 55° in ordinary winter weather.

Trichocentrum albo-purpureum.—This pretty little Orchid is a native of Brazil and bears at this season single-flowered spikes from the base of the bulbs. The sepals and petals are narrow and incisive, the lip pure white on each side at the base and a yellow centre. It requires careful treatment, thriving best in small well-drained pans with only the least possible surfacing of Moss and peat. Small rafts, too, make a good holding the roots having a great liking for wood when the latter is fresh. It may be grown in the lightest part of the Cattleya house.

Maedovia amabilis.—This is one of the most refined of the showy-flowered section and also one of the freest flowering. It produces fairly large flowers of a pretty bright carmine hue, and these, being borne on long, thin stalks, give the plant a very free and graceful appearance. The pots for these species need not be large, and the drainage material must fill nearly the whole of the depth, a thin layer of peat and Sphagnum only being required. The roots must never be dried summer or winter. *M. amabilis* is a Peruvian plant and first flowered in England in 1874.

Goodyera discolor.—The flowers of this little Orchid are now open, and although more generally grown for the sake of the foliage than the blossoms, yet the latter are pretty and delicate looking. They are of the purest glistening white on the sepals and petals, the lip being marked in the centre with a bright yellow blotch. The plants do best in a moist shady house in a good heat and look very pretty grown in 6 inch pots or pans. The best compost consists of peat fibre, loam and Sphagnum, with plenty of crocks and charcoal intermixed, and the plants should be divided and replanted in early spring. When growing freely, plenty of water is necessary, as the more quickly the plants are grown the richer the colour the foliage assumes.

Phalaenopsis Esmeralda.—A good, deeply-coloured form of this pretty Moth Orchid is in flower with me now, the erect spikes carrying nine and eleven flowers respectively. The sepals and petals are a pretty bright purple, the lip much deeper in colour, with the usual yellow markings on the side lobes. A small-habited

plant, yet easily grown in a suitable house, this *Phalaenopsis* deserves a place in every collection. The best way to grow it is in small hanging baskets, so that the air can play all around and about them, this being even more important than the light. In proof of this, quite recently I saw a fine lot of plants that had been growing upon the stage, and close to the light, where they were not exactly satisfactory. These were suspended from the roof, and now a healthier or more promising lot of plants it would be hard to find, yet they are not more than 3 inches or 4 inches nearer the glass, and are growing well within the metropolitan fog district. The baskets must be well drained, and nothing but clean Sphagnum Moss and charcoal or crocks need be used as compost. No drying off is needed by this Orchid, the roots being kept just moist all through the winter and an exciting temperature avoided. When well established and growing freely during the summer, a plentiful supply of water is needed. *P. Emericana* was introduced about ten years ago from Cochin China.—R.

STOVE AND GREENHOUSE.

THE STOVE ARISTOLOCHIAS.

This singular class of plants is in some respects at a disadvantage, in that the flowers are of no value for cutting because of their fugitive character, as well as by the decidedly offensive odour emitted by some of the species. It is as climbers that they must be grown if success is to be achieved. The better plan is to train them near the glass, a good method being to conduct the shoots upwards towards the apex of the roof. In no case, however, should too much shade be given them, otherwise it will be at the expense of the flowers. *A. elegansissima* (or *A. elegans*) will bear to have several shoots taken up in a comparatively close compass, as it is only a moderate grower, the leaves quite small compared to those of some others, but between it and any other climber there should be room for light and air, as any tendency to overcrowding will be an inducement to red spider. This species is very free-flowering, producing a large number of its really handsome blooms, which fortunately have not the unpleasant perfume of *A. gigas* var. *Sturtevanti*. *A. elegans* is an excellent variety to grow in the average stove house where room is at all limited. In a cut state its flowers will last fairly well for one or two days. It can be grown either in pots or planted out, the tendency of the latter system being to produce growth too freely. *A. gigas*, as it used to be known some twenty-five years back, is of stronger growth and not such branching habit; it has not a sweet perfume certainly, but its flowers are very pretty and curious. The variety of *A. gigas* known as *A. Sturtevanti* is the giant of the family, with immense flowers, which, with the tail-like appendage, attain to nearly 4 feet in length, the flower itself being nearly, or quite, 18 inches wide and of greater length; it is veined with dark velvety maroon on a lighter ground. The immense flowers are produced with freedom under good cultivation. The best position for it is on the roof of a lofty stove, or one in which aquatic plants are grown, as the moisture of the latter is most congenial to it. During growth water freely; at other periods be cautious in this respect. Aristolochias will all thrive in peat and loam. The enemy most to be dreaded is the red spider.

SOUTHERN.

Laurustinus for winter decoration.—I do not think the value of the Laurustinus as a pot plant for winter work is so well known as it should be. I have several large bushes in 8-inch

and 9-inch pots which at the present time are loaded with their pearly, chaste-looking flowers. I find them most useful for standing in ornamental pots on the drawing-room floor; in this position one gets a full view of the top of the plant and of every truss of bloom. The old sort with its pinky white flowers is worth pot culture, but is surpassed in delicacy of colour by the newer French white. Plants are easily raised in open

rooted varieties of *Begonia* which are now so popular. In late summer and early autumn its bright coloured blossoms are very attractive among the usual occupants of the greenhouse. This *Begonia* forms an upright, sparsely-branched plant 2 feet or so in height. The stems are succulent in character and clothed with rather bright green leaves, while the blossoms, rich reddish-pink in colour, are borne in small axillary



Aristolochia gigas Sturtevanti.

beds from cuttings, and make nice bushes in a couple of seasons, being best plunged in ashes during the summer months and assisted now and then with liquid manure.—J. C.

Begonia gracilis Martiana.—The Begonia grown under the above name, whether distinct or not from the typical *B. gracilis*, is certainly a very desirable kind, and one very different in appearance from the general run of tuberous-

lary clusters for some distance along the stem. This latter feature is a very noticeable one, being different from most *Begonias*. In the axils of the leaves, too, are borne great numbers of small bulbils, which afford a ready means of propagating this *Begonia*. *B. gracilis* was introduced from Mexico in 1829 by Mr. P. Neil, of Cannongrass Mills, Edinburgh, but it has never become a popular plant.—H. P.

MOSS SYSTEM OF LAYERING CARNATIONS.

I SHOULD be very much obliged to receive an answer in THE GARDEN to the following: What is the Moss system of layering Malmaisons as mentioned by Mr. J. Crawford in THE GARDEN, October 17?—R. M.

* Layering Malmaison Carnations by the mossing system is performed as follows: In July, as soon as the plants have done flowering, they are placed on the north side of a span-roofed greenhouse running east and west. The best shoots, which by this time have become somewhat hardened, are selected for laying down. A few of the lowermost leaves are first removed, after which a slit is made in an upward direction half-way through the diameter of the shoot, putting the knife, which should be a sharp one, just below a joint and taking it up through the next joint. A little Sphagnum Moss—any other dense fresh Moss will do—is then wedged in to keep the incision from closing, the whole being then encompassed with more Moss and tied securely round with soft matting. Both the Moss and plants are syringed daily for a month, by which time the young roots will be seen protruding through the Moss. Detachment must then take place, each plant being placed in a small pot, Moss and all, using a nice sandy loamy compost, with a sixth part leaf mould added. Small pots are advisable, as then the young roots soon permeate the soil, and a 4½-inch pot can be given in November. The shady position is essential until the roots are working freely into the new soil, when removal to the south side of the house and a little more air will be beneficial. If the house is dark and very damp naturally, the plants had better be removed to a lighter and drier structure in December, or spot and fungus are liable to attack them. Do not keep the roots too wet in winter, and smoke with tobacco paper mildly two nights in succession if green fly puts in an appearance. Unless pits or frames can be spared into which the old plants can be planted for layering, the mossing system is far better than turning them out into open borders as formerly, as since our summers and autumns are uncertain, great risk is incurred by adopting this plan. I have increased my Malmaisons by mossing for some years past, and, as a rule, 90 per cent. of the layers root satisfactorily. I also treat a percentage of my ordinary Tree Carnations in the same way in January, and so obtain large bushes which bloom early in autumn and are most profitable. I have now a nice batch of the new Malmaisons which were all rooted in the same way.—J. CRAWFORD.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS AT LEWISHAM.

THE Ryecroft Nursery, Lewisham, is one of those interesting centres of Chrysanthemum cultivation which a large number of admirers of the autumn favourite annually visit, the novelty hunter in particular. Besides Chrysanthemums, the Ryecroft Nursery has justly gained a reputation for its Begonias and Pelargoniums, but with these we are not at present concerned. The Chrysanthemums at the present will amply repay a visit, and are housed in the three large glass structures usually devoted to the purpose. In the largest of the greenhouses the plants are well arranged, with a winding path down the middle. The plants are dwarf, and the majority of them well in flower, although there are many yet to open. Recent novelties that showed signs of promise have been given a second and even a third year's trial, and most of the 1896 introductions are to be seen. The collection at the time of our visit was mainly composed of Japanese, although here and there some fine examples of the most recent incurred varieties were on view.

Very attractive in its rich golden yellow tone, is Marjory Kinder, a long petalled Japanese.

F. Vercelonne is a large Japanese, with medium-grooved florets, incurving and curly, colour rosy lilac. Mrs. McGee is a Japanese of American origin, a very pretty shade of pale blush. Sun flower is good and rich. Pallanza, the yellow incurved, fully maintains its reputation, and A. H. Fewkes, an American kind, is also very pure and rich in its golden shade of deep yellow. In brightly coloured novelties that are now well known, the Shrimpton and the Seward families are conspicuous, and do much to brighten up a collection, be it large or small. Pride of Madford is big, massive, and rich in colouring. It is a Japanese incurved of a pleasing rosy amaranth shade, having a reverse of silvery pink. Herbert Cubshell is new, a large Japanese, rich yellow, shaded carmine-bronze. A flower of immense size that will be sure to attract the attention of exhibitors is Australie, less rich in colour than Pride of Madford, but, nevertheless, quite as bold a flower. M. Desblancs, a seedling of de Reydellet, looks like a valuable addition to the old show-winning class, although the florets are a trifle flat, the colour however is warm and rich, and may be described as a salmon-yellow.

In new white varieties already seen, but not widely known, Lady Byron, Lady Esther Smith, Mutual Friend, Mme. Calvat, Mrs. H. Weeks,

and Pride of Maidenhead are all good and of large size and substance. Gold Dust is a new American hairy variety, a very rich shade of golden yellow, and a noteworthy addition to its class. Calvat's Australian Gold is very pale in colour, and the same raiser's Boule d'Or is represented by several good examples. A. Payne is a Japanese incurved, very full and double, with great length of floret, the colour silvery pink. Mrs. C. J. Mills is curious, a Japanese, with very long intermingling florets, globular in build, and of a pure white, a colour that has during the last four or five years received many substantial additions, and ones that will require great skill on the part of raisers to surpass. Baron Ad. de Rothschild is a large Japanese, also a white, florets narrow, but very massive. One of the best American novelties is Modesto, a Japanese incurved, with very broad grooved florets, deeply built and of a rich golden yellow. Amiral Avellan, another yellow Japanese already known, is good, but one of the prettiest shades of colour to be found among the novelties of the past two years is the delicate salmon-blush of the incurved Japanese Mrs. Briscoe Ironside. Western King, an American variety and a seedling of Nivemu, is highly thought of, the colour pure paper-white.

Of late there have not been many important additions to the hairy race, but we noticed Ebrios, a rosy carmine, with reverse tipped and shaded gold, as something new and of promise. Edith Tabor, the new English yellow Japanese, is grown at Lewisham, and also Milano and Lago Maggiore, new seedlings raised last year by Mr. Briscoe-Ironside from seed saved from plants sown during his residence in Italy. Emily Sibley, a novelty certificated last season, looks like becoming a keen competitor with Mme. Thérèse Rey, being of the same delicate shade of white. Some other promising novelties are to be found in the Ryecroft collection, but space is only left for a brief mention of them, and many of them will no doubt be heard of again. They are Beauty of Adelaide, pale lilac-mauve; M. Constant, Frank Ashman, Mme. de Vardon, Vainqueur du Dahomey, M. Fernand Denis, E. Rosette, M. Geraud, Lucille Mathieu de la Drône, a yellow Japanese incurred, recently certificated by the French N.C.S.; Gabriel Delorme, Souvenir de Jules Richard, Mme. Gustave Henry, Vallée de Bay, gory, Ialene, Mme. Eschenauer, and a few more.

The collection will be on view for some weeks yet, but advantage should be taken of the time before the rush of exhibitions takes place.

Chrysanthemum Mme. Thérèse Rey.—A correspondent lately stated that this variety was very apt to produce blind buds, which is certainly very disappointing. I have had it ever since it

was sent out, and always find that terminal buds do much better than crown buds, also that it requires bringing on very gradually and does not like the heat of a greenhouse, as is often given to get the blooms to full size for the early shows. The majority of my Chrysanthemums are kept out in the open air till the end of October, with a view to retarding the blooms to as late a date as possible, and I find that Mme. Thérèse Rey is just suited by the treatment, as after all it is really a late variety. Blooms that are seen at the November shows are often badly coloured, being far too green, which, in my opinion, completely spoils them. When housed, abundance of light is essential, the blooms invariably being inferior both in symmetry and colour if opened in semi-dark fruit houses.—C. C. H.

Chrysanthemum Emily Silsbury.—Those growers who secured this variety early in the year have good reason to congratulate themselves on their good fortune. The blossoms which have already developed have exceeded the most sanguine anticipations, and there is good reason to believe they will stand in good stead in some of the severe competitions of the present season. When first opening the buds give little promise, but as they develop it is surprising the quantity of florets which continues to expand until some quarters it is said that they will take the place of Mme. Thérèse Rey at the earlier November shows, judging from some blooms recently seen, there is every prospect of seeing some fine full and deep flowers. This variety is of easy culture, pure white, with long florets of good width and gracefully curving. It will be found an ideal flower. For market it will be one of the best, coming in for late October work. The growth is not by any means so strong as in most of the Japanese sorts, yet sufficiently strong to develop flowers of large size on comparatively slight wood.—C. A. H.

SHORT NOTES.—CHRYSANTHEMUMS.

Chrysanthemum Dolly.—Growers on the look out for a pretty little pompon will find this worth growing. The plant has a good habit, and produces charming little blossoms of a light canary-yellow.

Chrysanthemum Emily Silsbury.—The new white Japanese, is somewhat similar to Mme. Thérèse Rey. The tips of the florets are curly. There is the faintest yellow tinge in the centre in its early state.

Chrysanthemum Mrs. Briscoe-Ironside.—A Japanese, with large and well-shaped florets, the colour is pale salmon-blush, very delicate and pale.

Chrysanthemum Dr. Benny.—This is one of the most delicate novelties we have seen for some time. It is a seedling raised in Scotland and is a Japanese incurred in build; colour pale sulphur-yellow, tinted golden in the centre, grooved florets and a tall grower.

Chrysanthemum Baronne de Buffiere.—It is Japanese incurred, with twisted and slightly grooved florets, colour described as a beautiful shade of salmon-pink. There is a peculiarly refined appearance in this variety which is generally lacking in the Japanese incurred.

Chrysanthemum Australie.—This originated in the colonies and is one of the giants of the season. We have as yet seen nothing to equal it in size. The colour is a dull rose mauve, with a reverse of silver; florets very broad. For massiveness the exhibit could scarcely hope to find its equal.

Chrysanthemum Calvat's Australian.—Gold is a newly-introduced variety that is destined to be a success in English collections. It is very deep with long, curly and twisted florets, and belongs to the Japanese type. It is well named, for the shade of yellow is a pale golden colour.

Chrysanthemum Pride of Madford.—As an exhibitor's flower improves upon acquaintance. It is a big, solid Japanese incurred bloom of unusually large dimensions. The florets are broad, veined and deeply grooved, boldy incurving. The inside colour is a rich shade of rosy amaranth, with a silvery rosé reverse. Its origin is Australian, but the raiser's name has not been traced.

Chrysanthemum Gladys Royle.—This new decorative sort, grown without disbudding, is a very

charming little white flower with narrow florets. Grown in the ordinary way and disbudded, leaving about eight or ten blossoms, the plant is a handsome acquisition for vase-work or for beautifying the conservatory. In this way the flowers earn a measure 3 inches or 4 inches in diameter, and are of a corresponding depth. It is of a cool-water habit.

Chrysanthemum Nathan Smith's White.—This is a new seedling variety by Nathan Smith and Co., Adrian, U.S.A. It is a large flower with florets of medium length and rather broad at the ends, which are deeply forked. The blooms are of great depth and substance, and on this account it is worth growing as a new sort for exhibition. It grows about 4 feet high.—C.

Chrysanthemum Emsford White.—This comparatively old white variety is in good condition this season, the blossoms drooping freely and evenly. The flowers are of a pale cream colour, with a touch of pink. With the introduction of so many foreign and handsome new white sorts this variety is no longer needed for exhibition. As a decorative sort or for market work, however, it is worthy of extended culture.—C.

Chrysanthemum Miss Dorothée Shea.—The colour of this English-raised seedling is very bright this season. The flowers in which this is not noticeable promise to be some of the best of the kind yet grown, the petals being particularly long and the blossoms of great substance. A special interest attaches to this variety owing to its being one of the first plants raised in this country from specially hybridized seed.

Chrysanthemum Mrs. Richard Jones.—The present season promises to be rather prolific in the introduction of good white flowers. The variety under notice is one of exceptional merit, and its good qualities are likely to be appreciated when seen on the exhibition tables. The flowers are of the purest white, and when raised of immense depth. Cuttings strike late in the season and finally shift into 6-inch and 8-inch pots are developing good flowers.—C. A. H.

Chrysanthemum Western King.—This is of American origin. The flowers are long, broad, and incurving, and of great substance. It belongs to the Japanese incised section, where it will be esteemed. The character of the flower will, perhaps, be better appreciated when it is stated to be a cross between The Queen and Niveum, the characteristics of these two sorts being well known to most growers. To be seen in its best form, this variety, which is of easy culture, should be grown on strongly and a late but secured.—C. H. D.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

NOVEMBER 3 AND 4.

One of the two exhibitions to celebrate the jubilee of this important society commenced on Tuesday last under favourable conditions. For months past considerable interest in the few more important classes has been manifested by growers throughout the country. There were thirty Chrysanthemum classes and twenty-four fruit and vegetable classes on this occasion, taxing the resources of the Royal Aquarium to accommodate the large and varied list of subjects. The competition in almost every instance was very keen, the numerous entries in some classes making quite a show in themselves. This was specially noticeable in the class for twenty-four Japanese distinct, where there were no less than thirty-three competitors out of thirty-five who had entered.

Taking the show as a whole, it was a fitting celebration of the jubilee of the society, and was only marred by the bad arrangement on the ground floor. It is to be regretted that classes in which the chief interest was centred, such as the two premier ones for sixty Japanese distinct and sixty incurred distinct, and more especially the large group, which is one of the finest features at these exhibitions, were relegated to the side galleries upstairs, and where a large majority of the public would be very likely to miss them. There may have been a difficulty in finding adequate accommodation on the ground floor of the main building for the groups on this occasion, owing to

the circular form in which they were to be arranged. The London County Council insist on a gangway of a certain width always being kept free for the public, and because of this, and also owing to the peculiar formation of the ground floor space, it was entirely out of the question. But there was no excuse for placing the two premier cut bloom classes in the north-east gallery, as there was ample space for the display in the body of the main building had the large collection of miscellaneous exhibits been placed elsewhere. Potatoes, fruits, and other subjects are always appreciated at large exhibitions, but in the present case the Chrysanthemum had prior right to the very best positions in the building, and on this account should not have been ousted by subjects quite foreign to the object for which the society was brought into existence. There appears to be a growing tendency to foster a large display of these foreign subjects, which can have no other result than that of preventing the finer and more rapid development of the Chrysanthemum.

A round table of the arrangement of the tables of space occupied by the society in the classes in each instant need would have been very useful, and would also have assisted considerably in locating them without wandering all over the building to find any one particular class. This refers entirely to the Chrysanthemum exhibits. The fruits and vegetables in the competing classes were arranged in St. Stephen's Hall.

Regarding the display of cut flowers, the impression seemed pretty general that these did not come up to the expectations of the enthusiasts, neither was the standard so high as that of the last two years. Of course there were a few exceptions to this rule, in which instances they stood conspicuously from amongst the other stands. The Japanese flowers, as usual, largely preponderated. The exhibits of Japanese blossoms in vases were quite a pleasing feature, and one which the society might well encourage, as showing the practical uses to which the large flowers can be put, and forming a pleasing contrast to the recognised manner of arranging them in the uninteresting way which now so generally obtains. The vases in competition for the gold medal offered by the National Chrysanthemum Society of America were very beautiful, displaying a noble and effective arrangement. The large table of vases staged by two well-known specialists were also much admired, the beautiful colours, and the purity and excellence of the better stand being appreciated by many. Plants and groups were very good. Of the latter the display was good, but groups of a circular form, especially when a limited space do not lend themselves to an effective arrangement. More space was wanted in order to set off the arrangement to advantage. Plants were in fine form, both Japanese varieties and pompons being well represented. Decorative classes were not very numerous, but the quality was of about the usual standard. The second show is more especially reserved for the display of the decorator's art. One very pleasing feature was the clothing of the large fountains with plants and blossoms of the Chrysanthemum, associated with fine-foliated plants. That at the southern end was quite a picture. Fruits and vegetables were well and numerously shown, the greater part of them collections of vegetables were largely shown, while in the minor classes for individual subjects there were enormous entries, the bulk of the exhibits coming from over the border. Fruits were well shown, and Grapes particularly so. The miscellaneous exhibits comprised a great variety of subjects; these made an interesting addition to the show.

PLANTS.

In this class for a group of Chrysanthemums in pots, any varieties, associated with fine-foliated plants, brought out five competitors, and these were arranged down the western gallery. In this position they were not seen to advantage during the daytime, as the only light available was from a skylight in the roof, and from which it was not possible to see the full beauty of each exhibit.

The groups were arranged in a circle 12 feet in diameter and were primarily for effect. This was somewhat easily won by Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., with a bold and handsome arrangement. The group was arranged as a large mound, surmounted by a magnificent piece of Kentia Belmoreana. The Chrysanthemums in this group were equal to any exhibited as cut blooms and were all of the latest novelties with the exception of a few plants. The most prominent flowers were Modesto, a grand, new, deep rich yellow; Australie, Western King, a chaste, incurved white Japan; W. Wright, very large and spreading; Admiral Avellan, Mrs. Gover, Mrs. Weeks and Lady Byron. Fine-foliated plants were freely associated with the Chrysanthemums, and included many beautiful species of Croton, Cocca, Weddelliana, Dracena, Adiantum Farleyense, besides many other beautiful plants. A fringe of Selaginella, Ficus repens, Panicum variiegatum, &c., finished off a superb and noble group. Mr. W. Horne, gardener to the Henry Tate, Park Hill, Streatham, was second with a very pretty group, very bright flowers, and a fresh and health-looking fine-foliated plants. The class for nine plants of large-flowered varieties brought out four competitors, Mr. D. Donald, gardener to Mr. J. G. Barclay, Leyton, being first with superb examples. The plants were rather flatly trained, which some spoilt their beauty, otherwise they were freely flowered, nicely clothed with foliage and carrying good blooms. His best plants were Vivian Morel, Charles Davis, J. Shrimpton, Col. W. B. Smith and Margot. A good second was found in Mr. J. Brooks, gardener to Mr. W. Reyolds, The Grove, Highgate, with handsome plants, neatly tied, showing extra excellence. Two plants only partially developed spoilt this exhibitor's chance of premier honours. Two extra fine plants were Maiden's Blush and Gloire du Rocher, freely flowered and very clean. Mr. Donald was again first for six trained pompons, his plants being of the highest order of merit and beautifully finished. The sorts were William Westlake, grand yellow; Francis Boyce (Anemone pompon), Yellow Mme. Marthe, W. Kennedy, superb, and Sear Melanie. Mr. Brooks was again second, his plant of Adonis being very beautiful.

CUT BLOOMS.

There were eight competitors in the class for sixty Japanese varieties distinct, Mr. W. Mease, gardener to Mr. Alfred Tate, Downside, Leatherhead, being first with a very beautiful and even lot of blooms. They were fresh and in most instances highly coloured, with florets of good size and substance. The most noteworthy flowers in his stand were M. Cheon de Leche, Australie, Mme. Pankoucke, Vivian Morel, Mrs. Hermon Kloss, Vicountess Hambledon, A. H. Wood (in magnificent form), R. Owen (grand), Mrs. W. H. Lee, Miss Dorothea Shee, beautifully coloured, Phœbus, Edith Tabor (superb), Mme. Carnot, Modesto, Western King, Violacea, and Mutual Friend. The return to form of this Liverpool man was heartily welcomed by all growers. Mr. W. H. Lee was a good second, his flowers evidently having past their best. His stand contained a magnificent lot of flowers, but lacked the evenness which was characteristic of the premier stand. The best flowers were Modesto, Edith Tabor, Phœbus, each of these yellow varieties being seen in fine form, Emily Silbury, Le Mouchelette, Australie, Pride of Macfarld and Elsie Teichmann. The class for sixty incurred, in not less than thirty-six varieties, was well filled, ten competitors entering. In this Mr. Mease was again first with a good lot of flowers, some of which were of immense depth. Of the more frequent sorts, Globe d'Or, C. B. Whitman, Major Bonnaffon, R. C. Kingston, C. H. Curtis, J. Agate, D. B. Crane, Robt. Petfield, Brookleigh Gem, Robt. Cannell (very good), and Baron Hirsch were well shown. Mr. W. Higge, gardener to Mr. Hankey, Fetcham Park, Leatherhead, was a very good second, showing C. H. Curtis in magnificent form, while J. Agate, Major Bonnaffon, Baron

Hirsch, and Violet Tomlin were represented by ideal flowers. In the class for thirty-six Anemone-flowered Chrysanthemums there were only two competitors, premier honours resting with Mr. W. Skeggs, gardener to Mr. A. Morely, West Lodge, Barnet. The competition was restricted to twelve flowers of each type—large Anemones and Japanese Anemones, and twelve pompon varieties, three blooms of each variety. The first were charming, and were arranged in the back row of the board. Of the pompons, the best were Travers Boyce, E. Rowbottom, Astrea, Maria Stuart, and Bessie Flight; Japanese Anemones—M. Dupanier, W. W. Astor, Mine, Lawton, Queen Elizabeth, Sir Walter Raleigh, Owen's Perfection, and J. Bunyan; large Anemones—M. Chas. Leboeuf, Descartes, Delaware, Junon, very good, Judge Benedict and Mlle. N. Brun. For twenty-four varieties of single Chrysanthemums there was a good competition. The decorative value of these blossoms was well illustrated in the simple yet delightful way in which they were exhibited. There were altogether eight lots in competition, and premier honours fell to Mr. G. W. Forbes, gardener to Mr. D. Nicols, Regent's House, Surbiton, with a very lovely collection. The most conspicuous varieties were Alphonse, Mrs. D. B. Crane, Miss Mary Anderson and its pale yellow sport, Miss Annie Holden, with ideal blossoms, Rosa Pink, Nora, The Echo, a most lovely colour, Maud Robinson, Sarah Wells, and a charming white flower, Snowdrift. Mr. G. Agate, Havant, was a very good second, John Artes, rich terracotta, May Jeal, and Ethel Sergeant being among the best. The collection of old varieties was not forthcoming, a difficulty evidently being experienced in finding any varieties grown previous to the formation of the society in 1846. In the class for twenty-four bunches of Chrysanthemums as grown for market, in not less than six varieties only, there were two entries. Mr. Norman Davis, Framfield Nursery, Uckfield, Sussex, was an easy first, but he was disqualified, as his bunches were wired. The best and most striking flowers from a commercial point of view were Pallanza, rich yellow; Mrs. Briscoe-Ironsides, flesh tinted; Miss Florence Lunn, a pretty little reflexed; and a beautiful single-flowered variety named Beauty of Framfield, rich deep crimson, with bright yellow disc. The only other competitor was Mr. F. G. Foster, Brockhampton Nurseries, Havant, with a very poor sample of market varieties, for which second prize was awarded. For twenty-four individual blooms, distinct, there were eleven competitors, the leading position being taken by Mr. T. Robinson, according to Mr. W. Spencer, Elsfield House, Hollingbury, with a nice even lot. The best sorts were J. Agate, Princess of Wales, D. B. Crane, Violet Tomlin, Brookleigh Gem, C. H. Curtis (grand), Miss M. A. Higgins, and a beautiful bloom of Mrs. R. C. Kingston. Mr. H. Butcher, gardener to Mr. C. Bass, Lodge House, Smeeth, Ashford, was second with a less even lot, but containing grand flowers of C. H. Curtis, very deep, Lady Dorothy, W. Tunnington, and D. B. Crane. Nine lots were staged in the class for twelve incurved distinct, Mr. Silas Cole (gardener to Rt. Hon. Earl Spencer, Althorpe Park, Northampton) winning first prize with an even lot of flowers, the best of them being J. Lambert, Globe d'Or, Violet Tomlin, Mrs. S. Coleman and C. H. Curtis. For twelve Japanese Anemone blooms, Mr. J. Justice (gardener to Rt. Hon. Sir Richard Temple, The Nash, Kempsey, Worcester) was placed first among five competitors with a very charming stand of flowers. The best blooms were Sir Walter Raleigh, Enterprise, John Bunyan, Nelson and Robin Adair. For twelve Japanese blooms, distinct (open to amateurs only), Mr. J. Stredwick, Silver Hill, St. Leonards, was first with magnificent flowers, showing high cultural skill and remarkable for their rich colour. Phœbeus, Mr. A. H. Neve, Chas. Davis, Mutual Friend, Rose Wyman, Col. C. Smith, and Mons. C. Molin, being the best. The hairy flowers were well represented by Mr. H. Love, High Street, Sandown, Isle of Wight, who was placed first with fine examples of Mrs. Dr. Ward,

Louis Boehmer and Hairy Wonder. In the class for the best novelty in Chrysanthemums not previously exhibited, and for which six blooms were asked, a pleasing stand of a variety named Lady Isobel—a promising incurved Japanese flower, colour white, tinted rose—was staged by an exhibitor, but no award had been made. A most remarkable display was made in the competition for twenty-four Japanese, distinct, for prizes offered by Mr. H. J. Jones. There were in all thirty-five entries, of which number thirty-three put in an appearance. In the end Mr. Chas. Penfold (gardener to Sir T. Tytwhgram, M.P., Leigh Park, Havant) was placed first with a collection of flowers in the most interesting lot, not showing many remarkable features. The best of his blooms were Chas. Davis, J. Shrimpton, Miss Carnet, Edith Tabor, Phœbeus, Col. W. E. Smith, Ethel Addison, Rose d'Angleterre, Eva Knowles and W. Seward. Mr. W. Messenger (gardener to Rev. C. H. Berners) was second, with a nice even lot, International (good), Duchess of Wellington, Miss Carnet and Mons. G. Birou being his best. The classes for table decorations were well filled, and made a bright and pleasing contrast to the other formal systems of exhibiting. For three eperges, Mr. W. Seale, Sevenoaks, was placed first with a light, but somewhat indifferent system of arrangement; Mr. W. J. Green, junr., Harold Wood, Essex, being second, with a pretty combination of yellow and orange-coloured blossoms and autumnal foliage. The class for a vase filled with six blooms of one variety of Japanese brought out a strong competition, the first prize being secured by Mr. James Brookes, gardener to Mr. W. J. Newman, Park House, Totteridge, with white flowers, the second going to Mr. D. B. Crane, who had lovely bright yellow flowers of Duchess of Wellington, arranged with bright pieces of scarlet Oak and overhanging pieces of Asparagus and Smilax.

MISCELLANEOUS.

Under this heading the most noteworthy was the gorgeous display made by Mr. Norman Davis. A large table was covered with English glass vases and also those of Oriental design. These were filled with typical blooms of all sections of the Chrysanthemum, the flowers being remarkable for their clear colour and the general excellence throughout. Each vase was filled with one variety and arranged with great taste and skill. The beautiful new rich yellow Japanese Modesta was in perfect form, also Westgate King, a very chaste white. These contained Pinocchio, Mrs. Briscoe-Flower, small-flowered pompons and many excellent specimens of the Anemone types. Richly-coloured fine-foliated plants were charmingly associated, and the stand fronted with this year's novelties. A silver-gilt medal was awarded, much surprise being expressed at the poor recognition of such a highly meritorious display. Mr. H. J. Jones also had a table arranged somewhat similarly, with stands of flowers of the leading novelties of the season and individual blooms prettily interspersed among fine-foliated plants. This collection was also given a silver-gilt medal. By far the best arrangement of the fountains was this time attempted by the Itheemic Guano Company, Ipswich, who decorated the southern fountain. Chrysanthemums in pots and large exhibition blooms were arranged in a noble and effective manner all over, and these were supplemented by fine-foliated plants, including some fine Crotons. This desirable acquisition was a distinct advantage to the exhibition, and deservedly won the gold jubilee medal for decorative effect. Messrs. H. Cannell and Sons had a long table of new and choice Chrysanthemums and some handsome bunches of zonal Pelargoniums and flowering Cannas (silver-gilt medal). Other medals were also awarded to Mr. H. Shoestoe, Woking, who had a nice bright lot of the leading novelties in Chrysanthemums; to Mr. W. J. Godfrey, Exmouth Devon, for a large table of Chrysanthemums and Calla Little Gem; to Mr. R. Owen, Maidenhead,

for a pretty table of new Chrysanthemums; to Messrs. James Veitch and Sons for a large group of Chrysanthemums arranged in undulating form; to Messrs. W. Cutbush and Sons for a large group of Chrysanthemums and a collection of Apples; to Messrs. B. S. Williams and Son for a group of Orchids and fine-foliated plants artistically arranged; to Mr. T. J. Williams for his fine flower stands, and Messrs. Buxbaum for their highly coloured Vine leaves and Grapes. There were many other exhibits of a miscellaneous character which largely contributed to make the first of the public shows of the National Chrysanthemum Society a remarkably good one.

The gold medal of the N. C. S. of America, for a vase of twelve Japanese flowers judged for their commercial value, was won by Mr. P. Waterer, Fawkham, Kent, for a large vase of Mlle. Marie Hoste, which were shown in splendid form. This same gentleman also received a bronze medal for a new idea for affixing the names to blooms when staged for competition.

FRUIT.

The classes for Grapes brought forth a spirited competition, and the same remarks apply to the hardy fruit. Apples, both dessert and cooking, were largely shown. Leeks and Potatoes were far ahead of previous exhibits; indeed vegetables formed an exhibition alone, and in most cases the produce was very fine. For a collection of fruit—nine distinct varieties—there was not a strong competition considering the liberal prizes. Mr. M. Gleeson, Warren House Gardens, secured the premier award and medal, having two grand Pines, Cayenne and Rothschild, Muscat of Alexandria Grapes good in colour and berry, very good black Grapes, Hero of Lockinge Melon, Beuré Diel and Pitmaston Duchess Pears, well coloured Blenheim Orange Apples, and a good cluster of Bananas. The second prize went to Mr. J. Hayes, Castle Ashby Gardens, Northampton, he having very good Alicante Grapes, a Queen Pine, a good dish of Strawberry Violets, H. de Thury, Apples, Brown Turkey Figs, and Red Currants. In the class for twelve bunches of Grapes, in not less than four varieties, some of our noted Grape growers had a fair second place. The first prize was secured by Mr. Taylor, Tewkesbury Lodge, Tewkesbury, Forest Hill. The Gros Colmant was grand in colour, size, and flavour, also Muscat of Alexandria and Alicante very large and well coloured. Trebbiano was the weightiest dish. Mr. W. Taylor, gardener to Alderman Chaffin, Bath, was second, his fruit being much riper and not equal in size of berry. The Madresfield Court was fine in bunch and berry, but a trifle past its best; Muscat of Alexandria, excellent; Alicante and Gros Maroc good, with rather poor bunches of Cannon Hall Muscat. Mr. Goodacre, Elvaston Castle Gardens, Derby, was a good third, having good bunches of Mrs. Pearson. For the Messrs. Thomson's prizes for three bunches of Gros Colmant eight exhibitors staged. Here, again, Mr. Taylor, Forest Hill, was a good first, having very fine bunches perfect in colour, berries large and splendidly finished; Mr. Tidy, Stanmore Hall Gardens, being a good second. For the best three bunches of white Grapes a large number of exhibitors staged, Mr. W. Tidy being first and F. Cole second. For black Grapes, three bunches, Mr. Taylor, Forest Hill, was first, with superb bunches of Alicante, berries large and without blemish. Mr. Tidy being second with the same variety, but having a little smaller berries or green colour. For six dishes of dessert Apples no less than twelve exhibitors staged, and the fruits were really grand. Mr. Cox's Orange, Mother Apple, Cox's P. mona, Blenheim Orange, Ribston, and King of the Pippins being the varieties shown. Mr. Woodward, Barnham Court, Maidstone, was a close second, having Melon Apple, Bramhall Bellefleur, Calville Rouge, Ribston, Cox's, and Barnard's Beauty. Cooking Apples were equally numerous, no less than eleven staging, and there were few poor

dishes. Mr. King was again to the front and well deserved the premier award, showing The Queen, Peasegood's Nonsuch, Bramley's Seedling, Beauty of Kent, Blenheim, and Cox's Pomona. Mr. Woodward was second with excellent Stone's, Lane's Prince Albert, Emperor Alexander, Belle Dubois, Waltham Abbey, and Peasegood's Non-such. Pears, though less numerous, were excellent. For six dishes Mr. Thomas, Bargains Hall, Rodsham, was first, having grand dishes of Pitmaston Duchess, very fine; Beurré Diel, Columbia, excellent; Bauré Claireau, Doyenne du Comice, a grand dish, and Andre Leroy. Mr. Woodward's second prize lot lacked size, but as regards quality, his Beurré d'Anjou, B. Diel and Doyenne du Comice were superb, with a grand dish of Emile d'Heyst.

VEGETABLES.

The vegetable classes were more numerous, owing to so many valuable special prizes being given. The Messrs. Carter, Holborn, gave five prizes for a collection of vegetables, ten distinct kinds, and here were seen some of the best vegetable stages, no less than twenty lots being set up. The premier award went to Mr. Beckett, Aldenham House Gardens, Elstree. The vegetable stages were superb, the varieties shown being, Red and Yellow Cauliflower, Soller's Perfection Carrots, Holborn Leeks, Allis Craig Onion, Perfection Tomato, Standard Leeks, Jersey Lily Turnip, Exhibition Brussels Sprouts, and Goldfincher Potato. This was the finest lot of vegetables we have ever seen. The second award went to Mr. E. Brown, Langley House, Abbots Langley; his dishes were less even, but good in most respects. Record Onion was very large. Mr. Waite, Glenhurst, Esher, was third, he staging the only dish of Seakale in the building. For nine specimens of Record Onion, some immense bulbs were staged, and Mr. Bowerman was an easy first, having well-finished bulbs of great depth and weight and perfect sound. Mr. Pope, Highclere Gardens, Newbury, was second with flatter bulbs. For Messrs. Webb's prize for a collection of nine distinct kinds there was an equally strong competition. Mr. Bowerman, Hackwood Park Gardens, Basingstoke, secured the premier award, every dish being perfect. There were excellent Early Mammoth Cauliflower, Colossal Leek, Dark Red Beetroot, Sensation Tomato, Prizetaker Brussels Sprouts, Masterpiece Onion, Red Celery, and a remarkable dish of Defence Carrot (an intermediate variety), and Satisfaction Potato, the whole well set up and garnished. Mr. T. Wilkins, Inwood House, Dorset, was a close second, but he lacked the Brussels Sprouts, a telling vegetable at this season. He had fine Pearl White Celery, good Cauliflower, Leeks, and Onions, very excellent Parsnips, and Six-week Turnip. For Messrs. Harrison's prize an equal amount of competition was offered, but there was a considerable falling off in quality, some of the collections being poor—in fact none came up to the above standard. For six distinct varieties of vegetables, Mr. Empson, Amphill House, Beds, was first, his Cocoa-nut Onions being the best dish. Mr. Beckett was a very close second : he had better Cauliflowers and fine Leeks, but lacked weight in the Onions. The Messrs. Dobbie's prizes, offered by them for eight specialities, brought forth an enormous competition. In the Leek class alone over eighty staged. Mr. Bowerman secured the premier award and silver medal with grand roots, not of so great a length as many others, but of fine proportions and very solid. For second place, Mr. D. Pitt, Eccles, Kelsall, had grand specimens, a trifle longer than the first lot. For Globe-shaped Onions, Mr. Folkes, Gaddesden Place, Hemel Hempstead, was first with heavy, good-shaped, well-ripened bulbs ; Mr. Pope second. For flat Onions, Mr. Bowerman was an easy first, having grand specimens ; Mr. Pope second. Carrots, Intermediate type, were very fine and equally numerous. Here were some grand roots, Mr. Scott, Newtown, Haddington, N.B., being first with shapely roots, perfect in colour and not coarse ; Mr. Waite second,

Over seventy lots of Celery were put up, Mr. Beckett being first, having grand heads, thick, well blanched, and solid ; Mr. G. H. Copp, Holnest, Dorset, being second. Beetroot was mostly good and shapely, Mr. W. Dendy being first, and Mr. A. E. Kirland, Bletchington, Oxon, second. Parsnips were staged by some forty exhibitors, the roots in some cases very coarse. Mr. Waite had the best specimens, Mr. Wilkins being second. For Golden Ball Turnip some twenty odd lots were staged. Mr. Laverack, Prunelaws-by-Leslie, was first with superb roots, Mr. McKinnie, Roundellown, Crief, second. In all the above classes for vegetables there were in most cases five or six awards. For Messrs. Sutton's prize for fifteen dishes of Potatoes some fine tubers were staged. Mr. Wiles was a good first, his being perfect in shape and beautifully clean-skinning. The varieties were Prizetaker, Magnum Bonum, Supreme, Reading Russet, Snowdrop, Early Flame, Mr. Bruce's Perfection, Perfection's Seedling, Windsor Castle, Pink Perfection, and Abundance. Mr. Pope, being second with tubers little inferior to the above, he having several of the same varieties, with grand dishes of Lady Truscott and Best of All. For two dishes there was also a keen competition. For Messrs. Johnson's prize for twelve varieties of Potatoes, to include Boston Bountiful and Q.O., Mr. Wiles was again first, having similar tubers to those named above. For the society's Potato prizes (six varieties) there was a strong competition. Mr. Wiles being first out of twelve competitors, Mr. E. Chopping, Sittingbourne, a good second.

MISCELLANEOUS.

The vegetables and fruit not for competition occupied far more floor space than usual. The Messrs. Sutton, Reading, had large groups of Potatoes of all the best disease-resisting varieties and small collections of new kinds. Windsor Castle and Triumph, a grand tuber, were most noticeable. There were also fine examples of Supreme, Satisfaction, Best of All, Harbinger, Early Regent, Reading Russet, Reading Hero, and numerous other leading kinds (silver-gilt medal). Messrs. Laing, Forest Hill, had over 100 dishes of Apples and a few Pears, the centre being a large group of Prizetaker, Mr. Albert, Bismarck and Lady Henrikre Apple (silver-gilt medal). Messrs. Cubitts, Highgate, had a mixed group, fruit being largely shown, Doyenne du Comice, Pitmaston, Beurré Diel and Claireau Pears being very fine, with equally good Peasegood's Nonsuch, Lane's Prince Albert, Blenheim, Sairing Castle and other Apples (silver-gilt medal). Messrs. Lee, Ealing, had some sixty dishes of Apples of well known kinds, not large, but of good quality (silver medal). Messrs. Spooner and Sons, Hounslow, had an excellent lot of fruit, Apples and Pears in variety, well meriting the silver medal awarded. Messrs. Brown, Stamford, had a large collection of Apples and Pears of good quality and out of the usual run, the varieties staged being little known. They were all good, and did space permit, many deserved more than passing notice (silver medal). Messrs. Peed and Sons, Roupell Park, staged Apples and Pears in quantity, arranged with plants (silver medal). Mr. George, Putney, had fine baskets of Gros Colman Grapes (silver medal). Messrs. Deverill, Banbury, had a grand collection of Onions ; the Wroxton Brussels Sprouts were also excellent (silver medal). Mr. E. Berwick, Sidmouth, had a fine lot of Apples and Pears (silver medal). Messrs. J. Carter and Co., High Holborn, had a large collection of vegetables and Gourds in great variety (silver medal). A full prize list can be found in our advertisement column. In the official list it would have been a great advantage if the addresses of the successful exhibitors had been given.

A dinner to celebrate the fiftieth anniversary of this society was held on Tuesday evening last in the Whitehall Rooms, Hotel Metropole. The chair was taken by Sir Edwin Saunders, and amongst those present were Sir Trevor Lawrence, Bart., Mr. F. A. Bevan, Mr. W. Robinson, Mr.

Leonard Sutton, Mr. C. C. Paine, Mr. C. E. Shee, &c. After the usual loyal toasts, the president proposed the toast of the "National Chrysanthemum Society," alluding to its early history and development which are well known to all who take an interest in the Chrysanthemum. The "Affiliated Societies" the next toast, was proposed by Mr. Shee, who spoke of the invaluable bond of union which they promoted. There were now 138 affiliated societies, twenty six having joined during the current year, and represented throughout the world. Mr. C. Harman Payne, the foreign corresponding secretary of the society, proposed the "Donors of Special Prizes," and in a well-considered speech spoke of the valuable help these prizes were to the society. He referred alluded to the gold medal offered by the American Chrysanthemum Society, and if it had been offered earlier there would no doubt have been a larger competition. Mr. Bevan, who replied to this toast, laid great stress upon the utter unsuitability of the Royal Aquarium for holding shows. Many ladies would take an interest in the society if the shows were held in a more congenial spot. The health of "The President" was acknowledged with much cheering. Sir Trevor Lawrence, who proposed it, spoke of the Royal Horticultural Society having sent Fortune to China, and highly agreed with Mr. Bevan's views. He wanted a hall for horticulture, and he hoped his wish would be realised. Other toasts were "Kindred Societies," "The Visitors" and "The Press," the speakers being Mr. C. C. Paine, president of the Stoke Newington Chrysanthemum Society, Mr. G. C. Pompas, Mr. T. W. Sanders, Mr. J. E. Harrison, of Leicester, and Mr. Geo. Gordon, who replied for the press.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Victoria Street, S.W., on Tuesday, November 10, 1 to 4 p.m. At 3 o'clock lectures will be given by Mr. R. Fife and Mr. J. Long on "Seed-growing."

Yorkshire Gala.—A general meeting of guarantors and life members of the Grand Yorkshire Gala was held at Harker's Hotel, York, last evening. Sir Joseph Teas, J.P., presided, and there was a large attendance. The following resolution had been received from the Royal Horticultural Society : "The council of this society have heard from members of the deputation attending the York Gala of the great kindness and hospitality extended to them by the Lord Mayor and Lady Mayoress of York, and by the chairman and committee of the Gala, wish to express to his lordship and the Lady Mayoress and to all the members of the committee their very best thanks and sincere appreciation of the courtesy shown to their deputation." The chairman moved : "That the life members and guarantors of the Grand Yorkshire Gala beg to tender their grateful thanks to the Right Hon. the Lord Mayor (Mr. Ald. Milward, J.P.), and the Lady Mayoress for their generous hospitality in entertaining the deputation from the Royal Horticultural Society on the occasion of their last annual fete." The following grants to charities were made : York County Hospital, £30 ; York Dispensary, £30 ; York Lunatic Asylum, £20 ; York Home for Nurses, £10 ; York Home for Friendless Girls, £5 ; and St. Stephen's Orphanage, £5. It was resolved to hold next year's gala on June 16, 17, and 18.

The weather in West Herts.—Another cold week, and the fourth in succession. On the night preceding the 4th inst. the exposed thermometer stood at 10° of frost, making this the coldest night as yet this autumn. There has been scarcely any rain for ten days, so that the soil is now in capital working order. October proved a cold month ; indeed, during the course of it there occurred only five days and six nights which were unseasonably warm. Rain fell on twenty days, to the total depth of 3½ inches, which is about a

quarter of an inch in excess of the October average. The winds were, as a rule, light, and the air damp for the time of year. There was a great contrast between the early and latter part of the month as regards sunshine. The record of clear sunshine averaged 2½ hours a day for the first half and 4½ hours a day for the second half of the month.—E. M., *Berkhamsted*.

NOTES OF THE WEEK.

Primula Poissonii.—This species, as also *P. Forbesii*, are especially noteworthy for the remarkable succession of flowers they produce. Where these two species are grown in small groups, flowers may be found daily for several months of the year and till the autumn frosts appear.

Coreopsis trichosperma.—A small bush of this plant has been flowering abundantly in the hardy plant department at Kew for some time past, and a few days since was still gay with many of its yellow blossoms. The plant is of bushy habit and about 2 feet high in the Kew examples.

Helophilus scandens is a pretty and free-flowering climber from the Cape, smothered with numbers of small white flowers. Indeed, both in foliage and flower at a short distance, as also in the spray-like clusters, the plant may be taken for the white Jasmine. A good-sized plant was recently flowering abundantly in the succulent house at Kew.

Vanda Hookeriana.—This fine autumn-flowering Vanda is now opening its first bloom with me. The plant is in a very sunny and airy position in a stove, but has received no special care otherwise. *Vanda insignis* (true) is also very fine, but of course *Vanda* corrules in the cooler house in full flower surpasses all in beauty.—E. H. WOODALL.

Physalis Franchetti.—This recent introduction from Northern China was represented at the Drill Hall on the 27th ult. by a large tray of its highly coloured and large calyces. In point of size the latter are nearly twice as large as in the old form, though perhaps scarcely so brilliant in colour. This is as hardy as P. Alkekengi and of somewhat taller growth.

Carnation La Belle.—This old winter-flowering variety is not much grown in private gardens to-day, though years ago it was a favourite kind. Some market growers, however, in spite of its inclination to burst the calyx, grow it largely for cutting. Only the other day we saw in one market garden a house, 150 feet long by 21 feet wide, devoted wholly to this kind, hundreds of its pure white Clove-scented flowers expanding daily.

Lord Penzance Sweet Briar in bloom.—In a neighbour's garden I have just seen Sweet Briar Lord Penzance with a number of blooms fully out, and well developed buds more or less all over the plant—in fact a second bloom, as it flowered well in the summer. None of mine have even shown signs of blooming a second time, nor have I ever noticed it in the common Sweet Briar. I have not the variety Lord Penzance.—J. R. D., *Reigate*.

Correa cardinalis.—This is now among the best of greenhouse shrubs in flower, and where choice pot plants are in demand this should still be counted as among the most worthy. The plant is easily grown in peaty soil. In peat, leaves and sandy loam in equal parts it will attain to even greater vigour. The rich colour of the long, drooping, green-tipped blossoms is always appropriate, though the plant is not so often seen as was the case years ago.

Primula obconica rosea.—This is sufficiently well known to merit the varietal name here given, and the rose-pink shaded flowers that come in quick succession render it very pleasing. It is a useful variety, particularly to those who can handle such things with impunity. Of

the same compact habit of growth and equally free flowering as the type, this should be found in all collections of cool greenhouse plants. Doubtless we shall in time see more richly coloured forms of this plant now that a break has been made.

Agathaea celestis.—Of all easily grown and free-flowering plants, this is perhaps one of the most worthy of attention from amateurs having only a small greenhouse with little heat at command. The great profusion of its rich blue flowers is remarkable. Particularly are they used quite late in autumn and through the winter, and where the flower-head has been more or less retarded during the summer the plants will bloom abundantly when placed in a slightly heated greenhouse. Just now and for weeks past this plant has been very effective.

Three fine zonal Pelargoniums.—It is a great boon to those having large conservatories at this season that such a wealth of beautiful zonal Pelargoniums exists.

At the Drill Hall we had a large array of these plants set up from the Royal Gardens, Windsor. The whole collection was well grown and included many fine varieties.

Three of the most distinct were Luther de Medici, fine salmon-pink, large and well formed; Lady Reed, white, with salmon centre, extra large blossoms; and La Bruant, a decided scarlet, with some indication to double.

Cypripediums from Scotland.—Mr. W. Macdonald, Atholl Hydropathic, Pitlochry, N.B., sends us a handsome gathering of Cypripediums. The flowers sent, which consisted of such fine varieties as Spicerianum, represented by a remarkably good form; Charlesworthi, very bright and of good size; the beautiful and scarce hybrid, Nicobe, also very fine, showed how valuable these Lady's Slippers are at this dull season of the year for the warm house. Owing to the long time the flowers remain in good condition when cut and also their variety, their value for cutting is also great.

Physalis Alkekengi (Winter Cherry).—Although all but devoid of leafage and in many instances entirely so, this plant is still very striking where large masses of it are planted for effect. This is the case at Kew, where a fine group in the rock garden is freely covered with its bladder-like calyces, which in the mature stage are very highly coloured. Indeed, it is in this stage that the plant is of the greatest value in the garden. The plant is of quite easy culture, spreading so freely in fact in some gardens and soils as to render it troublesome. In moist, grassy soil in the woodland or on the margin of the shrubbery this plant may be naturalised with excellent results.

Dichorisandra thyrsiflora.—Among stove plants possessing merit for rare and brilliant colouring this species is worth special notice. Unfortunately, the plant is rarely seen in collections of stove plants, and still more rarely is it seen in flower. The flowers are of the richest indigo-blue and produced in a rather compact thyrsiform spike about 8 inches in length. This exceptional blue is in no way detracted by the white base of the flower, which is again assisted by the bright yellow anthers in contrast. The plant is a native of Brazil and is now flowering in the large Palm house in the Kew Gardens. Where brilliant flowering plants are appreciated in the stove this deserves attention.

Calypsochele aurantiaca.—An extremely curious and unique species belonging to the Amaryllidaceæ, and requiring greenhouse treatment. The above-named species is, perhaps, one of the most beautiful of this small genus, having a scape at least 2½ feet high, and terminating in an umbellate head of golden yellow flowers. A very curious feature of this group is the remarkable length to which the stamens protrude beyond the perianth. It is from the Andes of Ecuador. Another species, *C. mirabilis*, from the Peruvian Andes, is only of botanical interest, the flowers being quite inconspicuous, while the stamens protrude 3 inches or more beyond the perianth.

and assume an umbellate head, which is very curious, though not beautiful. Both species are flowering at Kew.

Callicarpa purpurea.—Where this plant is largely grown, as it is in the Botanic Gardens at Birmingham, it is as attractive as many flowering plants. The length of time the berries remain upon the plant is wonderful. Mr. W. B. Latham, the curator of these gardens, grows the plant freely and well in one of the warm houses, the fruiting growth being frequently as tall as 4 feet long. The plant requires a sheltered position, when the fruits are ripened, and the growth being made quickly during the summer, flowering, as also the free setting of its berries, is thereby ensured. When fully matured the berries assume a bright shining, rich violet colour, and being abundantly produced in axillary clusters, the latter only an inch or two apart, are very beautiful, arranged with fine-foliated plants throughout autumn and winter.

Celastrus articulatus.—This species is fruiting this autumn with great freedom, and a group of it near the flagstaff at Kew is now very pretty. It is a native of China and Japan, and is a perfectly hardy, vigorous-growing climber. It has coarsely toothed, rounded or oval leaves, and small, inconspicuous flowers are yellowish green and usually borne in short axillary clusters of three. The fruits produced on the same short-stalked clusters are almost quite hidden until the leaves fall, and change from green to bright yellow, and when fully ripe the yellow pod bursts open into three segments and discloses the bright red seeds within. In this respect it closely resembles the common Spindle Tree of Britain (*Euyonymus europaeus*), to which the *Celastrus* is, indeed, closely allied, and the contrast in colour between the fleshy axil of the seed and that of the capsule or pod is most effective. This species promises to be of great value for rapidly covering stumps, mounds, &c.

Elaeagnus macrophylla.—Visiting Messrs. Veitch's nursery at Coombe Wood a few days ago I noticed this fine species of Elaeagnus in flower. Possibly it has flowered before in this country, but I do not recollect its having done so. The species is one of the most distinct and striking of the Elaeagniæ, having larger leaves than any other, these being on the upper surface of a very dark glossy green, whilst beneath they are of a silvery white. The flowers are in general character like those of *E. pungens*, a species that flowers regularly about this time of year, but they are considerably larger. They have the same silvery grey tint that characterises the under surface of the leaves. At a time of year when the outdoor garden has but few woody things to show in flower, this species is welcome, especially as it is a most striking fine-foliated plant as well. It is evergreen and perfectly hardy in the London district. Like *E. pungens* and *E. glabra*, it is of North Asiatic origin. A specimen in the arboretum at Kew is 6 feet high and much more in diameter. E. J.

Magnolia glauca.—The normal flowering season of this shrub is not some weeks back, yet it still continues to produce a few blossoms. Some days ago a specimen at Kew was brought several. Like most of the American species, it never makes a great display at one time (as do *M. conspicua* and *Soulangeana*), but continues in bloom for a much longer period. The great charm of this Magnolia is its fragrance, which in sweetness resembles and almost rivals a Tea Rose. The cup-shaped flower is 2 inches to 3 inches across and has soft creamy white petals. The leaves are oblong, dark lustrous green above, but blue-white beneath. The species is quite hardy in the south of England. There appear to be two varieties of it in cultivation, one of which is purely deciduous; the other, except in the severest winters, is semi-evergreen, and it is this variety that flowers so late into the autumn. For small gardens this is one of the most desirable of American Magnolias, being slow growing and rarely more than 8 feet to 10 feet high. The larger-

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leaved plant known as *M. Thompsonii* is either a very distinct variety of *M. glauca* or a hybrid in whose origin that species has had most influence.

Lycoris aurea.—This handsome bulbous plant, of which a plate was given in *THE GARDEN* of January 19, 1895, p. 42, is now flowering at Kew, but in the examples noted the other day a deficiency of vigour and also of colour, that would seem to imply that plants were not perfectly happy, was noticeable. A year ago we noted almost every bulb produced a slender, vigorous scape, upwards of 2 feet high, and bearing two handsome flowers. The hope of this plant ever being a complete success in the open garden in this country will be a long time before being realised. The leaves are not produced with the flower-scape, the latter preceding them, as in *Nerine* and other things. A quick leaf growth and a decisive season of rest on the greenhouse shelf in full sun will, perhaps, be most likely to fully ripen the bulbs, which are sometimes placed beneath the stages to rest, where the sun never reaches them, and where a more or less damp, unhealthy state prevails. Such treatment is scarcely likely to give good results at flowering time.

Rhus typhina (*Stag's-horn Sumach*).—Among the several Sumachs which possess great autumn beauty, no species is better worth cultivation than this. It is a native of the eastern side of North America, and there attains the dimensions of a small tree 20 feet or more high. The leaves vary much in size according to the richness of the soil in which the tree is growing, and also to the age of the tree. On young specimens and on those cut hard back each year they will measure 2 feet to 3 feet in length, and are made up of numerous toothed, pointed leaflets. Whilst the stately proportions of the foliage render this *Rhus* very ornamental during the summer, it is in autumn, when the leaves turn a brilliant red, that its greatest beauty appears. At that time, too, the fruit, which is borne in dense, upright bunches, is of a deep velvety crimson. This Sumach is easily propagated by cuttings made of the fleshy roots, which should be taken so long, and if made in spring can be planted out of doors in a well-worked piece of ground. Where room can be spared, it is best to plant it in a large group, and to cut it hard back before growth commences in spring, afterwards restricting the growth to one or two shoots. By this means strong shoots are produced, and the leaves are many times larger than those borne by unpruned plants.

A note from Scarborough.—I send you a few notes which will I hope be of interest. Now and then a real gain crops up among novelties even when they come in such shoals as the new *Caryopteris* does. The one which I wish to bring into notice as a dwarf annual kind to be grown in quantity for edging purposes and for cutting is *Camassia Foucherii* *de Caen*, which has before been mentioned favourably in your columns. It is a very dwarf and free-flowering *Source d'Or*, and of the greatest beauty when massed, as well as delightful for cutting. Mile. Marie Maré is a bright red-lilac which is excellent as a contrast, and if possible still freer and more abundant in bloom. It is also very dwarf and needs no dead-budding. After the drenching storms of wind and rain there is little left in outdoor gardens generally this season. But there is a flower for every season, and certainly the shrubby *Veronica* is the one for such as this. A bed of seedlings now flowering profusely is as beautiful as if the weather had been all that could be desired. There are fine long spikes of bloom from pure white to richest crimson and deepest purple-blue. Lilac and even pink are to be found among them. Some cuttings put into a frame will prevent their total loss should the winter prove very severe, and another mild winter will make next year's display still finer. No seaside garden should be without this delightful flowering shrub, and seed, which is so abundantly produced, should be saved and sown under glass, though numbers of self-sown

seedlings appear annually with me.—E. H. WOODALL.

Trees from Chiswick.—Among the many thousands of young seedling plants in tiny pots which are now to be seen in the R. H. S. Chiswick Gardens, I noticed a fine batch of *Yucca Whipplei*, which in their present stage of growth give an excellent example of plant mimicry, as it took more than a casual glance to convince oneself that it was not a healthy lot of young Malmaison Carnations. Other seedling plants which I noticed in great numbers and excellent condition were *Rhododendron campanulatum*, *R. arboreum* album, *R. Thompsonii*, *R. barbatum*, *Azalea mollis*, *Tritoma Zonobius*, *Bixa multiflora*, *Berberis viridis*, *Buxus phoenicea*, *Grevillea Banksii*, *Lobelia Gerardii*, and indeed of the numerous fine lot of *Adiantum pedatum*, a lovely thing, of which more will presently be needed to good batches of *Selaginella caerulea*, *americana* and *S. Emiliana*, the former well known and the latter a very promising variety, which appears very likely to be of great use for cutting. Young and healthy stock appears to be the order at Chiswick just now. One house was very gay with *Fuchsias* in good variety and the plants were well grown. I looked for some of the good old species but these were not in evidence, which seems a pity in such a garden. A long border was devoted to Michaelmas Daisies, of which there were many good and many poor forms. It is unfortunate that the names of these are in such a tangle. They are badly in need of sorting out, and such an extensive trial should be productive of much good.—J. C. TALLACK.

Datura cornucopiae in the open.—On page 345 of last week's issue of *THE GARDEN*, Mr. Taplin mentions this as doing well planted out in Philadelphia, and wishes to know if it has been grown so to any considerable extent in England. I purchased two plants the first year that it was introduced, and these bloomed and seeded freely, so that the next season there was ample opportunity for me to test its worth. The seed was sown in heat in February, and as the plants grew they were potted on till the middle of May, by which time they had been put into 6 inch pots. After the last shift they were plunged on a hotbed, so that when established the lights could be removed in fair weather. About the middle of June they were planted out on some rich ground, and here they grew and flowered freely all through the summer, forming quite bushy plants, which ripened their seed in the open. I have not attempted to keep the old plants through the winter since the first season, as there has always been plenty of seed ripe, so that sufficient plants have been raised each spring for planting out. The seed in which the plants are grown cannot be too rich, as if of a good size when planted out it will continue to bloom till cut down by frost. It is a moisture-loving subject, therefore ought to be liberally supplied with manure during the summer months. Though this autumn has been so unfavourable, several seed pods have arrived at maturity, so that there will be no difficulty in keeping up a supply of plants. Those who have not hitherto grown this species would do well to give it a trial.—H. C. PRINSER, *Busted Park, Sussex*.

I think Mr. Taplin must be right in his surmise that our average summers are not warm enough for this plant to be seen at its best in the open, for the few specimens which I have seen in that way have run mostly to leaf, and were by no means satisfactory, hence my note on its merits as seen under greenhouse treatment. Possibly it might succeed outside if grown in a very sunny spot and in rather poor soil, but the chances are that it would then become a prey to red spider.—J. C. TALLACK.

Cypripedium Calceolus.—I am making some effort to get this renaturalised in English woods and shrubberies. Would any of your readers who may have knowledge or reliable information as to the character and conditions of its former habitats

give me the benefit of it? Some may be able to say how and where they have seen it growing on the continent. Although it is said to carpet forests in Brazil and elsewhere in millions, it has never been my good fortune to see it in Nature.—H. SELF-LEONARD, *Guildford*.

PUBLIC GARDENS.

New recreation ground for Canning Town.—The West Ham Town Council have just had presented to them 10 acres of land in Hermit Road, Canning Town, which are to be laid out as a recreation ground and open space for the people.

Churchyard-bottom Wood, Highgate.—At a meeting of the Hornsey District Council, the chairman, Mr. Cory Wright, stated that if the council gave £10,000 towards the purchase of Churchyard-bottom Wood, Highgate, for an open space, he would undertake that the remaining £15,000 necessary to complete the purchase should be forthcoming. The council therupon resolved to contribute that sum.

A public park for Glasgow.—The Glasgow Parks Committee have resolved to recommend to the Corporation the purchase of about 50 acres of Tollcross estate, offered to them at the price of rather over £29,000. The park will be one of the finest in Glasgow, and, although not very large, is well wooded, and contains many varied descriptions of landscape. There are lawn, wood and garden. The mansion house was long the residence of the late Mr. Dunlop, J.P.

Restitution of enclosures at Brighton.—Widespread satisfaction has been caused at Brighton by the transfer to the corporation of what are known as the North Steyne enclosures, which form links in a succession of enclosures that extend from the sea front up the central valley of the town. They cover about 4½ acres, and were in the early part of the century common land, but were fenced in and placed by the lord of the manor in the hands of trustees for the use of subscribers. For several years an agitation has been intermittently carried on with the view of securing to the town what, in many quarters was regarded as public property; and this aspiration has been realised, the transfer having been made possible by the trustees consenting to a clause inserted in the recently-passed Brighton Improvements Act. The formal ceremony consisted of the mayor receiving the key from the senior trustee, and walking round the grounds with members of the Town Council and others.

OBITUARY.

Death of Mrs. Heal.—We regret to announce the death of Mrs. Heal, the wife of Mr. John Heal, so well known in connection with the many good things he has raised in Messrs. Veitch's nursery at Chelsea. Friends both at home and abroad will, we are sure, sympathise with Mr. Heal in his great bereavement.

BOOKS RECEIVED.
Hand List of Trees and Shrubs Grown in Arboretum, Royal Botanic Garden, Kew, Part II. Gamopetalos to Monocots. London : Longmans, Green & Co., 1896.
The Nursery Book. By L. H. Bailey. Third edition. London : Macmillan and Co., Ltd.

Names of plants.—B.—1, *Salvia azuroides*; 2, *Neurolepis missouriensis*; 3, *Phormium tenax*.—T. P.—*Phytolacca Conifera*, Small flower.

Names of trees.—A.—E. Davies : 1, Pear Garden's Bergamot; 2, Pittnaston Duchess; 3, Apple Wadlurst Pippin; 4, Bleheim; 5, Sturmer; 6 and 7, Jersey Gratioli; 8, Tote Puff.

Fifth Edition now ready, beautifully illustrated, medium Svo, price 15s. *The English Flower Garden : Descriptions, Views, and Plans, with Descriptions and Illustrations of the Best Plants, their Culture and Arrangement.* London : John Murray, and of all Booksellers.

No. 1304. SATURDAY, November 14, 1896. Vol. L

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ORCHARD AND FRUIT GARDEN.

FRUIT SHRIVELLING.

I AM aware there is ample excuse for shrivelled fruit this season. Doubtless many were in a similar position to myself. It was a matter of either gathering or losing all, as the fearful gales late in September played such havoc that if the fruits had been left there would have been few sound. The advantage of dwarf bush trees was great in such a season, but even bush trees in exposed positions were so much beaten about that there was only one remedy, and in some cases this meant premature gathering and shrivelled fruits. For many years I allowed the Russet Apples to hang till the end of October, no matter what weather; indeed, I have seen them hanging when the leaves were falling freely. Given cool storage I had sound fruit the next May. The much-prized Cox's Orange was given similar treatment, and there was no difficulty in having good fruit at Easter. I fear such will not be the case this season, as in many gardens I noticed late fruit was gathered in September. Another point deserving of attention is the influence soil and stock have upon varieties. At this date (October 26) I have some Golden Reinettes and Rosemary Russet, with Fearn's Pippin, quite ripe. As most fruit lovers know, these are midwinter, or what may be termed January and February fruits. On the Crab stock I have had good Fearn's in May, given cool storage. This latter point is worth more than passing notice. My impression is that the Paradise stock is much earlier in maturing the crop than the Crab, as the Paradise, rootling on the surface, gets more warmth, and of course finishes up the crop more quickly. Much the same results are seen with bush trees over standards. I mean small or medium trees, such as are usually grown by the side of garden walks or in a limited space. These are more favoured, as the earth gets more light and warmth than under large standard trees. From a record kept of various kinds of fruit ripening I note the fruit from small trees on the Paradise stock is quite three weeks in advance of that of the same variety on the Crab on standards. This is as at this date I have scarcely got a solid fruit of Cellini grown on the Paradise; whereas fruit from orchard grown trees in the same soil and locality will be good well into December. I grant these latter lack the size of the early fruit, and are also deficient in colour, but they point out the value of certain stocks. In poor fruit-soils my idea is that a free stock is conducive to sound keeping; whereas a stock which restricts growth hastens ripening. The question of stocks points to the necessity of having various kinds of fruit to test keeping qualities on the stock most suitable for that purpose. Take Pears on the Quince and on the Pear. Those on the Quince in a hot, dry summer like we have experienced this year are not keeping. The well-known Beurre Diel on the Quince is all ripe by the end of October, while on the Pear stock it is much later. This question of stocks should certainly be more considered in what may be termed poor soils. In such the Quince stock is like the Paradise (with Apples); it fruits

earlier, but in barren soils, such as sand, gravel, or chalk, the free or Pear stock is most suitable, as it allows the fruit to be gathered later.

G. W. S.

STRAWBERRY GROWING FOR AMATEURS.

STRAWBERRY growing amongst amateurs has during the last ten years made great strides, many of them producing fruit good enough to win first prizes. An important consideration is that you should doubtless have their hands at it but for the idea, often more imaginary than real, that their garden is not suitable and that failure would follow. Others, again, having no one to advise them when making their selection, err in planting capricious varieties, with the inevitable result—disappointment. A garden must be poor indeed if with a moderate amount of trouble it cannot be made to grow, and grow fairly well too, at least the more hardy, free-bearing kinds of Strawberries, which amateurs should, as a rule, confine themselves to, as that category embraces some of the largest, handsomest, and best flavoured in cultivation. In making a start, it should be borne in mind that a new bed and a fresh ladder are imperative every third, or at the most fourth, year, the latter term being tolerated on none but what is termed a real Strawberry soil, and then only when mulches of rich manure and occasional copious drenchings of farmyard liquid are given. Many amateurs err here, not can we wonder when so many professional gardeners still insist on allowing beds to stand for four and even five years. Where ground is very limited, a few rows only, and those of the very best sorts, must suffice, as after destroying a bed, Strawberries must not occupy the same plot for two clear seasons, the ground in the meantime being cropped with vegetables of various kinds; but where the garden is of good size, and will find it an profitable private gardeners, to whom I have frequently recommended it, to sow their spring Onions in rows 21 feet apart, and to plant their young Strawberries in July or August in the intermediate spaces, thus securing good Onions and good Strawberries as well. The unsuitableness of the soil seldom consists in its being too heavy, although stagnation has sometimes to be encountered, but this can be remedied by ordinary drain pipes having a safe outlet. Sometimes soil which does not actually approach a clay is, nevertheless, impervious to sun-heat and air, and the best way of bringing it into a right state for Strawberries is by a liberal addition of burnt garden refuse, road sidings, which usually contain a good percentage of horse droppings, and even rough leaf-mould from the bottom-bead of forcing houses. Strong soils should never have dug into them rotten spit manure, but that which is in a rough, semi-decayed condition, though well saturated with the urine. I have known soils little better than clay to be brought into Strawberry-growing condition by first taking it off till the subsoil was reached, removing it to an adjoining plot and burning it over the embers of a large bonfire fed by any loose wood which happened to be on the premises. The subsoil was then broken up with a fine-tined fork and a good layer of littery manure laid on it. A liberal mixture of burnt refuse, the parings of walks and drives, leaf-mould, and semi-decayed manure, should then be laid in, the burnt soil being finally laid on the surface in ridge form to extend it still further to frost and wind. In March a start was made at one end of the plot and the whole mixed up together, not trenched in the ordinary way, but a good wide opening taken out and the compost thrown forward, which secured a much more thorough mixing of the various ingredients, ordinary trenching being performed the next time. Shallow, hungry soils are best rendered fertile by adding more compost to the surface. This may consist of heavier loamy material and thoroughly decayed manure. Mr. Douglas, when living at

Lxford Hall, had a similar soil to deal with, and some of his friends told him he would never grow Strawberries, but time proved that they were wrong, for he not only grew ordinary sorts, but grand examples also of British Queen and Dr. Hogg, his fruit always being held in high esteem at the London shows. This he accomplished by increasing both the depth and richness of the soil, and not doubt by annual mulchings and manurial applications. I knew an old East Anglian gardener who, by reason of having too light a soil, could not grow British Queen or Dr. Hogg, the plants frequently dying off the first season, but after incorporating with the staple a sixth part of a whitish marl which abounded in the neighbourhood, these two capricious Strawberries did well enough; in fact, he used to win first prizes with them. But some may say these remedial measures are too expensive for amateurs, but the so-called expense is more imaginary than real, as the plots assigned by them to the culture of Strawberries are usually small, and when the work is once done its effects are permanent.

Many amateurs appear to have no idea of what a really good Strawberry runner is. Only recently a lady showed me some so-called runners which were given her by a clergyman, but which were nothing more nor less than portions of old worn-out plants which had been pulled to pieces, and which of course would never have been of any use. I advised her to buy a few plants of a nurseryman in pots, which she did. Ordinary runners purchased from a distance and sent to their destination by post or rail usually arrive minus soil about the roots, and will, no matter how healthy they may be, if planted out on ground exposed to full sunshine, at once drop their foliage and make slow headway. My advice with such to plant them closely on a shaded plot and to keep them well sprinkled till established, then remove them to their final quarters. Extra weak runners of any variety are best left in their nursery bed till spring. I sometimes notice that amateurs plant too high, being afraid, they say, of burying the crowns; consequently after a few showers or artificial rain the ball becomes partly exposed and the plants soon suffer from drought. The plants should be well lowered and a slight basin left round each to hold the moisture, a little rough leafy material or short litter being placed round each. I have been speaking of increasing the depth of Strawberry beds, but, after all, this plant is to a very great extent a surface rooter, this being, I think, proved by the colony of new roots which is soon formed in the fresh compost when pot plants are surface dressed, equalising the Cucumber in this respect. Give Strawberries no encouragement from the surface, and like other things, they will descend in search of nutriment; but mulch well with rich material and feed with liquid occasionally, and capital results may be obtained from soils which some gardeners would pronounce too light and sandy even to grow a table Beet. As the list of varieties for the majority of amateurs must necessarily be a short one, I will name a few which may be safely grown by all, giving them in the order of ripening: Vicomte Héritier de Thury, Royal Sovereign, President Sir J. Paxton, Gunton Park and Latest of All.

J. CRAWFORD.

Pear Mme. Millet.—Is any reader of THE GARDEN acquainted with this Pear? It is catalogued as a dessert variety, but I have grown it now for the last ten years, and it has never been fit for that purpose. It will keep till March or April, and is then very nice when stewed. In appearance it resembles Winter Nellie, but carries rather more russet than that variety. The tree is a constant bearer here on a wall that gets all the morning sun. Perhaps it ripens so as to be fit for dessert in the south of England, but as I have never seen it mentioned, I am inclined to think that it is but little known.—J. C.

Peach A Bec.—It is strange we so seldom see or hear of this fine Peach, as it is worthy of being

placed in the very first rank of second early forcing Peaches. The fruit is pale in colour, with a slight tint of crimson when fully exposed to the sun, and the flavour as good as that of the Old Noblesse. This used to be a favourite Peach with Mr. Coleman at Eastnor Castle, and was sometimes conspicuous in his collections of fruit in the early part of the year. I have had no experience with this variety out of doors, but have found it to bloom so freely and set its fruit satisfactorily under glass when started in December, that I can confidently recommend it. The skin of A Bee is very thin—J. C.

Peach Stump the World.—This is a really useful and reliable midseason Peach, and one that all Novice growers who want to fill the basket should plant. At Hutton Hall it does capitally. Mr. Moxon once occasionally showing a good dish of it at some of his exhibitions. Stump the World can also hold its own for flavour, and will keep sound after being harvested much longer than many Peaches. It is a good variety for planting on open walls in the south, and I have never seen it tried in the midlands. Under pot culture and free thinning out of the fruit it grows to a large size. The flesh is very white, melting, and delicious. For pot culture it is one of the very best for succession, and it does not ripen its fruit all at once, but piecemeal, which is an advantage.—N. N.

Nectarine Downton Improved.—Having proved the very excellent character of this Nectarine, I can confidently recommend it to all for planting in houses that are to be started at Christmas or the new year. I believe it would force as well as Lord Napier or Erlinge, as it sets its fruit very freely and swells off a heavy crop after year, ripening only about ten days later than Lord Napier in the same house, and which really had a more sunny position, the house being a span-roofed one. The fruit of Downton Improved is of good size and the colour a rich mahogany, the flavour being, in my opinion, as good as can be wished for. This is one of the many Nectarines that are usually planted in mid-season and later houses, from the belief that they are not adapted for forcing.—C. H.

Strawberry Gunton Park.—So far I have never seen any adverse comments as to this kind, the only objection some people have to it being its dark colour. This season Gunton Park was grand in quality, crop and size, and though as regards the two latter points it is not equal to Royal Sovereign, it comes as near B. Ith Queen in quality, that it will, I am sure, become a favourite in all private gardens. I admit that this season was one I could desire to bring out quality, and the name deserved far exceeded my expectations on a poor thin, gravelly soil, its brisk, pleasant flavour being much like it. I note "A. W." (p. 233) thinks well of this variety, and another well-known fruit grower ("J. C." [p. 323], gives a high opinion of it). The opinions of these growers, wide apart and in diverse soils, show there is real merit, and that one need not be afraid of including it in his list, however limited.—G. WYNES.

Apple Wormsley Grange Pippin.—A distinct-looking Apple like Wellington at first glance, but then the resemblance ceases, as it is an esier kind, and is, moreover, equally as good for the dessert as for cooking. The Apple was raised by Mr. Knight, and is often confounded with the Grange Apple, another seedling of his, but which is, however, quite unlike it. It is in season during November and December and it possesses a brisk, piquant flavour. When fully ripe the fruits are golden yellow, and those exposed to full sun take on a beautiful flush. It is a good cropper, standards especially bearing heavily. Grown as a bush the tree is perhaps not quite so good a grower, but it is very prolific. The fruits when first gathered emit a very pleasant fragrance. I think it is not extensively grown, as I have seldom met with it.—S. E. P.

Cherry Esopus Francia.—Those who want a good late Cherry will do well to give the above variety a trial. Not only is it late, but it

is equally good in quality as the earlier varieties. This is one of the Bizarreau section. I have no knowledge when it was introduced, but I have of late years had some very fine fruits on young trees. The growth is remarkable when the crop is taken into account. This is a very large fruit, skin dark red and flesh rich; it hangs well into August. Grown on a wall I find few superior to it in quality, and its size makes it a valuable dessert variety. Of Early Cherries there is a good choice. Of really good keeping or late fruits, the selection is restricted, and the one noted does not shrivel so quickly as some kinds. I have it in various forms, to h. cordons and fan trained, and it appears to be quite at home in either. With merely glass protection it is superb, and quite as free as the older kinds. I am this season planting this variety on a north wall owing to its free cropping, and should it succeed in our well-drained, warm soil to late crop on such an aspect will be most valuable.—S. H. B.

NOTES ON STRAWBERRIES.

I AM sorry to find that "A. W." thinks I intended, in my criticism of his article on Strawberries, to imply that gardening in any one particular had fallen to a low ebb at Stoke Edith. As a matter of fact, nothing was further from my intention, as it is a well-known fact how successfully fruit growing generally is carried out there, and how well certain Strawberries (though limited in variety and diverse in quality) succeed on the soil; but with regard to the decadence of Strawberries in general, I may say that I have again carefully read "A. W.'s" original article, and I must hold to my expressed opinion that there has been a decadence on the part of the vast majority of those tried, all of which have presumably come to Stoke Edith with good characters, and many of which are well known to growers generally as good varieties. Of these, some have remained good for one or two seasons, others longer. "A. W." does not tell us exactly how many varieties he has tried and found wanting, but he is himself struck with the disproportion in number between those tried and those retained. He has admittedly tried thirty one varieties, but only retains seven, one of this small number being a comparatively small variety; another is generally acknowledged to be poor in flavour, though valuable for late work, and a third only narrowly escapes the same fault. Of the four remaining, one has only been in cultivation for a few years, though quite long enough to be well proven, and the other three have been recently sent out that they must still, according to precedent, be looked on by "A. W." with some suspicion. Again, we find that Keens' Seedling is retained, while La Grossé Sucrée is discarded owing to want of size, which seems strange. I do not wish, however, to enter here on a dissertation on the comparative merits of Strawberries, and probably if now and not well tried varieties had been condemned, I would not have wondered nor had anything to do with the matter, for all gardeners are, or should be, aware that new varieties often fail to retain the good character with which they are sent out; but when I found such universal favourites as President and Vicomtesse de Thury condemned, I must admit that I was astonished. If we look at the reports on the fruit crop which are published year by year, we find that these two stand at the top of the list as regards general utility combined with good quality, and praise comes to them from their behaviour on soils of all kinds that can be made to grow Strawberries, so I may be forgiven for holding the opinion that where these will not succeed there is, from a Strawberry grower's point of view, something not altogether right.

Turning to my other critic, "J. T.," I may say that I am glad to find that the youths of Ledbury and its neighbourhood are so well grounded in the first principles of horticulture as he suggests. This augurs well for their future, but apparently it does not help us in the present case, for we are now told that this "heavy soil," this "virgin clay," has already been dealt with in such a

manner that it may be dug in midwinter within a few hours after rain with no injurious effects. I think this speaks for itself and requires no comment of mine, except to say the fact would have had more weight had it been stated by "A. W." himself, who is quite capable of concocting his own case in a matter of this kind. There is no such point of difference between "A. W." and myself as "J. T." infers, for I should never advise anyone to make special attempts to grow improved varieties because they have been "well spoken of," and "which may, or may not be slightly better or more fashionable than those we already produce." I simply wrote of old and tried varieties, the unsatisfactory conduct of which puzzles me. With regard to adapting a soil to a crop, this is, I take it, the gardener's great aim. May I ask "J. T." a question on what might be a parallel case? Suppose I am situated on a "good" soil which for some reason or other will not grow the best dessert Apples. Am I to content myself with growing for dessert Easter Pippin, Hanwell Souring or Worcester Pearmain because the soil suits them, or am I to try and get over the present defects of soil and make it suitable for Cox's Orange, Kerry and Ribston Pippins, remembering always that "only the best are tolerated"? If certain chemical elements essential to colour are present in the soil, why not put them there? "A. W.'s" article obviously invited discussion, and I too, am thoroughly in accord with those amateurs, "J. T." included, and probably with some professional gardeners, who are curious to know what others think on the matter, free discussion being a useful aid to knowledge.

J. C. TALLACK.

Apple The Queen.—This is a remarkably handsome Apple, somewhat resembling Cox's Pomona in appearance, but differing from it in being flatter and larger. It is a first-rate cooking Apple, and, I should imagine, one that would market well on account of its colour. As a bush on the Paradise stock it is very fertile, and the tree is a vigorous grower. A distinct feature is the leaves, these being very large and broad, and much like those of Lord Grosvenor and Peasgood's Nonsuch. Like the latter, the tree sheds its leaves early. I have some standard trees that were planted two or three years ago, but cannot say whether it is a variety that will succeed as such, as they have not yet commenced to bear. Possibly some reader of THE GARDEN can kindly give information on this point.—A. W.

Apples for colour.—Two beautiful varieties to aim for in providing enduring colour are Golden Spice and Col. Vaughan. These have the merit of colouring early and of retaining their fruit for a long time. Where Apple cordons are grown over arches, trees of these varieties planted alternately on each side would in fruit give beautiful effects. One of the finest of fruit archways I have seen is at Buchan Hall, Sussex. It is 15 feet wide at the base, and the crown is 17 feet high, and the whole 100 yards long, but there has been no effort made in the planting to get colour effects. The trees are Plums, Apples, and Pears, but here, of the last, Beurré Clairgeau and Durondeau are the prettiest. It is, however, a method of growing Apples and Pears well worthy of adoption, especially to obtain pleasing colour results.—A. D.

The Crystal Palace fruit show.—I do not agree with "Cornubian" that the single dish classes for Apples at this show should be increased, but I should like to see them varied from year to year. Not a few of the classes were comparative failures at the recent show, bringing only from one to four dishes—surely absurd results. It may be good policy to help bring newer varieties into prominence, if good, but as these are chiefly in the hands of the nurseries, surely they are the proper persons to make them widely known by exhibiting them. That some of the best standard varieties should be retained in the schedule every year is certain. On the other hand, it is useless

to retain any varieties that are naturally so early as to have long passed their best form ere the show is held. There was less to complain of in the dessert section, but in the kitchen kinds such varieties as Ecklinville Seedling, Lord Suffield, and Lord Grosvenor are surely out of time in October. They might well give place to other varieties that have good qualities and keep well. These are indeed the Apples we need to encourage, because in the past far too much encouragement has been given to the early autumn fruiters, because these not only run large, but come off early. From this point of view, the holding of the exhibition at a rather later date, as is this year, than earlier is desirable. Not a few of those grow very early. Pears were over ripe, for they are fair to the eye and rotten to the touch. In all cases, perhaps rather too much attention is given to ripeness, but fine samples of good keepers are full; as worthy of consideration. In the any other variety classes I should like to see in each case one for fruits for ripeness or colour, and one for quality and keeping.—A. D.

GRAPE LADY DOWNE'S SHRIVELLING.

I SEND you a small bunch of Lady Downe's Grape, which you will see is very badly shrivelled. Of course I have taken one of the worst bunches. I had, two years ago, the same thing happen. Last year it was not so bad. The Vines in the late house are Alicante, which is a little given to shrivelling. I give plenty of air day and night, a little fire-heat also. The Vines have been planted seven or eight years and look healthy and vigorous. I started them about the beginning of March. The border lies very low, facing south.—A. G.

. The premature shrivelling of Grapes is only too common, and "A. G." may console himself with the fact that many of our best gardeners have been puzzled with the occurrence. A friend of mine once took the trouble to write to all the leading Grape growers with a view to learning their views upon the question, and the greater portion of them courteously replied. Some suggested that more water was the remedy for shrivelling, others that the Vines very probably had been overdone with it. One noted grower was of opinion that either more sunshine or its equivalent, more fire-heat, was needed; the opposite view of the case finding favour with another equally successful grower. Some few authorities seem to think that a light shading on the roof is desirable on very hot days, but a very successful market grower condemned this practice most emphatically. Various remedies had been tried without any marked success before this wholesale application for advice was made, and any new suggestion received was subsequently given a trial, but the difficulty has not yet been wholly overcome. It is a knotty subject, and only rarely tackled by writers on Grape growing accordingly. Nor is this to be wondered at, especially seeing it is doubtful if anyone can confidently give a remedy for premature shrivelling that would apply to vineeries other than those under their own charge.

It has long been my contention that it is not possible to lay down hard and fast lines on many points connected with Grape culture. Positions, structures, climate, and, in particular, soils differ surprisingly, and a line of treatment that answers well in one instance may be radically wrong in another. Some growers will assert, I have heard them repeatedly, that it is not possible to give Vines too much water during the growing season, but the very men who made this strong assertion and believed what they were saying at the time have since found out that they were wrong. Some soils will not

become soured if watered heavily once a week; others will, and if a change of treatment is not made, unsatisfactory progress is the result. Then again, we are sometimes told that it is scarcely possible to over-feed Vines when heavily cropped. When they are planted market-growers' fashion in ordinarily dug ground, and this happens to be of a poor, gravelly nature, manure must be given in abundance or a broadway will soon occur, but this is very different with many borders formed in private gardens. These may easily be converted into mere masses of humus or be made so rich that the roots will not work properly in them. When the borders are not in a sound state or congenial to the roots, something will go wrong above-ground.

After carefully reading and re-reading "A. G.'s" letter and examining the bunch of Lady Downe's Grape sent, the conclusion I have arrived at is that he has treated his Vines too generously. It is a bad case of shrivelling or worse than often seen. Shrivelled (not shrank) berries are generally solid. These were soft and watery and the flavour inferior. More water has to be evaporated by those still hanging, and the chance are the shrivelling will be more noticeable in a few weeks' time than at present. There is too much water and not enough starch in the berries. Water and acidity must be got rid of and sugar take its place, otherwise the quality and keeping properties will be at fault. The Grapes under notice were wanting in solidity, and when moisture leaves them they shrink. It is true, comparatively solid berries also are liable to shrivel, but in this case the fault lies in keeping either the border or atmosphere unduly dry during the process of ripening. With me the berries of Lady Downe's seldom shrivel, but Muscat of Alexandria same house, under precisely the same treatment, does, the latter when ripened late requiring more heat than was good for the black Grapes. If I unduly fed the Lady Downe's at the roots, using nitrogenous manures to excess, I should not be surprised to find the growth more sappy than desirable and the berries watery, the result of liberal feeding. I would suggest that he carefully remove the surface soil down to where roots are plentiful, substituting for this a compost of four parts good fibrous loam, well chopped up, to one part each of old mortar rubbish, charcoal and wood ashes mixed, and half-inch bones. If the roots can be enticed into this and kept there by means of a summer mulching of strawy manure, another top-dressing of similar compost could be given either next autumn or the following spring. In all probability this change of soil would have the effect of greatly improving the quality of the crops of Grapes in every way. Should this line of treatment be out of the question, the simpler one of applying newly slaked lime only in the spring at the rate of 1 lb. to the square yard of border, lightly forkings this in and using no other manure for one year should be tried. The lime will correct and sweeten the border, also supplying what the Vines probably need. Wood ashes and bone meal, or, better still, steamed bone flour, the former supplying the much needed potash, and the two latter phosphoric acid, also most essential, ought to be used by all Grape growers, and would certainly act beneficially when the berries either fail to colour properly or are

given to shrivel prematurely. Wood ashes alone are strong, especially if kept dry till applied, and must not be used recklessly. A peck per square rod is enough for one dressing, but "burn bake," or the residue from a garden smother (slow fire) may be applied at the rate of four pcks per square rod, or even more freely if wood ashes are not largely present, the roots of fruit trees and Vines revelling in it. With this apply bone meal or flour at the rate of 4 lbs. to 5 lbs. per square yard. This dressing of bone meal and ash's should be pricked into the surface. Failing bone meal or flour and wood ashes, the required amount of phosphoric acid and potash could be supplied in the form of superphosphate (minera) and kainite, the latter a cheap crude potash salt, in equal parts and applied at the rate of three ounces per square yard when the Vines are about to be started, and repeated three months later. Where the borders are comparatively poor one part of either nitrate of soda or sulphate of ammonia should be added to the three parts each of other ingredients and another ounce per square yard be applied a month or six weeks later. Thomson's Vine manure, applied as advised by vendor, is of great assistance to many Grape growers.—W. I.

PEAR GROWING AT GUNTON PARK.

THOSE accustomed to visit the exhibitions of the National Chrysanthemum Society at the Aquarium will be familiar with the fine Pears that have for years been shown there by Mr. Allan, of Gunton. This season his fruit is, if anything, finer than in previous years, the weight of some varieties being enormous. It may perhaps interest some of the readers of THE GARDEN to hear a little of the method of culture pursued at Gunton. Of course, the moist climate, coupled with the fact that the garden in which these Pears are grown is from moor-pieces of land of the right sort, has a good deal to do with Mr. Allan's success, but, unfortunately, addition to all this, special culture was given, such excellent fruit could not be produced. In the first place, the trees from which many of the largest fruit of such first-rate varieties as Doyenne du Comice and Glou Morceau are gathered occupy a south wall 12 feet high, which used to be twenty years ago, one of the best Peach walls in Norfolk. Others, however, are grown on west walls with almost equal success. One rule always adhered to by Mr. Allan is getting a good clean, healthy tree to start with, some being trained in fan and others in horizontal form, and on both the Quince and Pear stock according to the varieties. The borders at Gunton are of the ordinary width and the natural soil of average quality, but then these Pear trees are treated every few years to a fresh addition of good rich loam cut from the adjoining deer park, a privilege which all gardeners do not enjoy. When each fresh addition of loam is given, a trench is taken out just where the roots have extended to, and the new compost, containing a little rubble to keep it open, is placed in, the tips of the roots being laid in ready to fresh stumps the following season; the new portion is made firm, Mr. Allan attaching a good deal of importance to that. Care is taken to remove all useless spurs and growths at pruning time, sufficient spurs only being retained to receive a maximum amount of light and light when in full growth in summer. I do not think the trees are protected by netting or tiffany when in bloom; nevertheless, excellent sets of fruit are annually secured. Of course, to get General Toddleben 2½ lbs., Doyenne du Comice 20 ozs., and Marie Louise 18 ozs., thinning must be practised with a liberal hand, but even with a foot to 15 inches left between each fruit when the final thinning is given, the trees in autumn seem thickly studded. Dry summers do not materially interfere with the swelling of Pears at Gunton, as each tree receives a liberal mulch of rich manure and several copious drenchings with

farmyard liquid: the hose also is applied vigorously to the foliage at intervals while the fruit is swelling. The trees are all netted in autumn, as tomits are very troublesome in this garden. During August and September the Pear wall at Gunton are certainly worth a long journey to see. Mr. Allan crops his borders with the ordinary run of vegetables all the year round.

J. CRAWFORD.

PEAR KNIGHT'S MONARCH.

"J. C." in a recent issue of *THE GARDEN* asks the opinion of those who grow this Pear in pyramidal form in the open air. I have a fine tree here trained in this way which is invariably crops most freely, but it casts its fruit like the other trees trained on a wall. The tree in question is double-grafted on Beurré Bachelet, and I was hoping that this would have cured it of its bad habit, but such a delicious Pear that it is a pity; that some means cannot be found to counteract this evil, for the fruits that drop prematurely are never so good as those that remain on the tree until mature or ready for gathering. The only thing that can be done, so far as I am aware, is to place a good stout net over and under the tree to catch the fruits as they fall, and allow them to remain there until the crop is gathered in, for if stored beforehand they only shrivel and become useless. There have been great complaints about Pears dropping this season, owing, of course, in a great measure to the drought, but such was not the cause in the case quoted above, as the tree was well watered on several occasions. Unfortunately, the habit Knight's Monarch has of casting its fruit is not confined to any one season alone, my experience being that it is always prone to do so, let the season be good or bad. Through this fault many of my trees have been headed back and grafted with other varieties. It may be interesting to some to know that there are two varieties of this Pear, the genuine, or true kind, and a spurious one. The latter may be easily mistaken for the former, as it is very similar in appearance, but cannot approach it for flavour and good quality. The mistake arose through grafts of another seedling Pear having been sent to the Royal Horticultural Society's Committee when Monarch was first introduced, and both got distributed in this way. I had both in this garden for many years but the spurious kind was got rid of to make way for Pears of more recent introduction. The finest fruits of Knight's Monarch that I have ever seen were grown and shown to me by Mr. Parr, a gentleman living at Ledbury, at the Hereford show last year. The fruit in question was as large as a medium-sized Callville Pear and it was of handsome proportions. If I remember rightly, he has the tree growing on a wall, and he stated that it always does well with him, and the fruits are generally above the average in size. At one time old trees of this Pear were to be met with in some of the Herefordshire orchards, but they have mostly disappeared, and I do not know of a single tree now in this neighbourhood.

A. W.

Feeding Raspberries.—These plants suffered so much last summer in light soil that every attention should be paid them at this season to get a strong growth. It is often thought in such seasons more canes may be left at a stool if they are smaller than usual, with the result these again produce a forest of new growths, weakening the plants. I would strongly advise removal of weak wood in such cases, and if a late summer mulch was omitted, which will have done much good, the heavy rains washing the food to the roots, now is the time to apply the same. The Raspberry being a surface rooter and gross feeder. Few plants feel drought sooner, and as many other things have prior attention in the summer, now is a good time to give manure from tanks requiring to be emptied. On light soil, cow manure mixed with soil is a grand surface dressing, and,

in the case of old or poor canes, much better results may be secured by new stock planted in deeply dug and manured land.—S. H. B.

Spineless Gooseberries.—I cannot give any opinion as to the merits of these, but I can positively assert that the more spines there are on the bushes the better I like them, for the simple reason that no artificial protection that can be applied, in the way of lime, soot, and other noxious compounds, is half so effectual in keeping small birds from picking out the buds in winter. Here, in close proximity to a large town, we are swarmed with sparrows, and in winter and very early in spring they attack the Gooseberries, Plums, &c., to such an extent that we do not get half a crop of many of them. There is a vast difference in the way they pick out certain varieties, and while some thinly spined sorts as the well-known Golden Drop bear very few buds, those with long drooping shoots and few spines are nearly cleaned.—J. G., *Gosport*.

NOTES OF THE WEEK.

Carnation Shazada.—A dark variety, said to be tolerably good winter-flowering kind, and if so, it will assuredly be welcome in any collection of these useful plants. The colour is crimson, with a shading of maroon in some of the petals.

Gossypium herbaceum.—Among things that are interesting just now at Kew this plant is worthy of note, from the fact that from it cotton is largely obtained. In the large Palm house a group of plants may be seen bearing many of the woolly heads.

Agave Roezliana.—A fine specimen of this species in the Palm house at Kew is sending up a fine spike already 12 feet or 15 feet high, some two-thirds of this length being densely clothed with buds that have yet to develop. The spike is erect and stout in proportion, considering the rapid progress made during the past fortnight.

Gomphia Theophrasta.—This is among the showiest of stove shrubs now in bloom, and as seen among many fine-foliated plants, its dense panicles of golden yellow blossoms are very attractive. The flowers are very freely produced in a central terminal cluster and surrounded by large handsome leaves, each a foot or more long. It is from South America.

Carnation William Robinson is a tree variety possessing some points of merit—viz., size and freedom of flowering. The habit also is good, as is the colour, which is a fairly good scarlet, though not so bright in colour as those of Winter Cher. The flowers are individually larger. Like many other kinds that are now being raised, this variety lacks perfume—one of the most meritorious points of this popular flower.

Narcissus viridiflorus.—Although this flower is only worth growing as a curiosity, which it undoubtedly is, it may be of interest to some of your readers to know that it is without doubt quite hardy in this country. The flower I send you was gathered this morning (Nov. 11), and is uninjured by 10° of frost and the heavy storms of rain we have since had. I found the bulb near Gibraltar about eight years ago.—A. KINGSMILL, *Harrow Weald*.

Anemone Lady Ardingla.—This season the above Japanese Anemone has certainly with me been inferior to Honoree Joubert as a decorative variety, and I see that "E. J.'s" experience (p. 350) has been somewhat similar. It is difficult to imagine an improvement on the chaste beauty of the single form, which is certainly more in accord with the present taste for single flowers than is the semi-double Lady Ardingla, though it is claimed for the latter that its blooms are more lasting when cut. However, a first trial, con-

ducted in a dry year like the present, must not necessarily be taken as conclusive, and perhaps further experience will materially alter first impressions.—S. W. F.

Tecoma Smithii.—This is an exceedingly showy and useful plant for the cool greenhouse, particularly for growing in small pots. Evidence of its value may be seen in No. 4 greenhouse at Kew, where many plants are crowded with the golden orange flowers, flushed with tawny-red on the upper surface. Some very fine heads of bloom are here produced in 5 inch pots, and these, together with the showy character of the blossoms, render it a most desirable plant for the greenhouse at this season of the year.

Rose Marie Van Houtte.—Apart from the individual beauty and charm of this Rose—to which, as a matter of course, its freedom and profuse flowering would also be added—it is among the hardiest of its race. Despite very severe frosts having been registered in the first week of November, with ice fully a quarter of an inch thick, this charming variety is still opening its buds, while the half-expanded flowers seem quite uninjured by the severity of the weather. The position of the plants referred to is quite unprotected, and it would be interesting to know if such hardiness is general with this variety. Undoubtedly, any Rose that will expand its flowers in mid-November and after weather so severe should be planted freely.

Aster grandiflorus.—This, the latest flowering of all the Aster—much too late to be included in the Michaelmas display—is also among the most beautiful of the entire race. It is unfortunate, however, that the first name of this plant is of little worth, as it is few indeed have been fortunate enough to flower it well in the open garden. Even in the south the plant rarely flowers satisfactorily. In the greenhouse, however, as a pot plant it is among the most beautiful of autumn flowers, the large handsome heads as well as the neat and pretty habit at once attracting attention. At Kew several plants of it are flowering beautifully in the Camellia house. The plants are only 18 inches high or thereabouts, but the large flowers are freely produced and make quite a display when all else of this family have passed away. Blue flowers are by no means abundant, even in the greenhouse in November, and a plant that may be flowered in the Camellia house so late in the year is worth more care from gardeners. Grown in pots plunged in the open and treated as are many cool greenhouse plants during the summer months, this Aster would be found to have a value of its own through the whole of November, and for cutting would assuredly be admired.

Camonea maxima (Welwitschi).—This most remarkable tropical climber, discovered by Dr. Welwitschi in Angola, and introduced into cultivation in English gardens many years ago by Mr. William Bull, of Chelsea, has hitherto defied the efforts of some of our ablest cultivators to induce it to produce its handsome flowers, which are believed to be the largest of any known member of the leguminous family, attaining the unusual dimensions of about a foot in length, and being produced in small bunches of from six to eight flowers on a bunch. It has now bloomed, it is believed, for the first time in Europe simultaneously in at least three English gardens, namely, that of Mrs. Wetherby, Barton Court, Hungerford; Mr. E. H. Wardle, St. Nicholas' Hill, Cheltenham; and in one of the private houses of the Royal Gardens, Kew, where it is trained up one of the rafters of the house. The flowers are white, with a narrow rim of gold round their edge, and are, unfortunately, extremely fugacious, as each of them only remains expanded for a few hours before it fades. It exhales, however, a delicious fragrance, which seems to be its principal merit from a horticultural point of view. A coloured portrait of the flowers of this curious plant has been prepared from the specimen at Kew, and will shortly appear in the *Botanical Magazine*.—W. E. GUMBLETON.

TREES AND SHRUBS.

SWEET CHESTNUTS IN AUSTRIA.

The illustration shows a Sweet Chestnut tree in its wild state in the southern parts of Austria, where the fruit is an important part of food to the inhabitants. In the south of Tyrol, the Etsch valley, near Meran Bozen, are extensive forests. In the environs of Bozen

with a small iron stove in a sheltered corner, where they roast the fruits of the Sweet Chestnut and sell them to the passers-by.

Vienna.

LOUIS KROPATSCH.

FLOWERING SHRUBS IN OXFORDSHIRE.

The flowering shrubs have been better this year than I have ever known them. I enclose a list of those which have done well with me, in case it may interest any lovers of these beautiful sub-

Diospyros virginiana (Persimmon)	Pavia californica
Deutzia penduliflora	Pilea trifoliata
Elaeagnus in var.	Pittosporum
Escallonia in var.	Punica granatum
Exochorda grandiflora	Rhodotypos kerrioides
Erica in var.	Robinia in var.
Forsythia in var.	Rhododendron canadensis
Hamamelis virginica	Rubus in var.
Hedysarum in var.	Rhytidopeltis jasminoides
Indigofera floribunda	Stuartia virginica
Lonicera in var.	



The Sweet Chestnut in the Tyrol. From a photograph sent by M. Louis Kropatsch, Imperial Gardens, Vienna.

there are trees with stems 1 mètre in diameter. The Sweet Chestnut is also found in masses as a forest tree in Dalmatia, Bosnia, and some parts of Carniola and Styria. In the vicinity of Vienna the climate is too severe, and consequently trees are only to be found in sheltered woods and parks. The fruit here is of little value compared with that from the southern parts. At the beginning of winter there appear in the streets of Vienna men who post themselves

jects. They have all flowered without any protection!—

Amorpha fruticosa	Cercis siliquastrum
Asara microphylla	Chionanthus virginica
Abelia rupestris	Colutea
Althaea frutex	Clethra alnifolia
Andromeda	Carpenteria californica
Arbutus in var.	Clematis coccinea
Calophaca Wolgarica	Caryopteris mastacanthus
Catalpa	Choisya ternata
Ceanothus in var.	Deutzia in var.

Magnolia in ten vars.	Staphylea
Nuttallia cerasiformis	Spiraea in many vars.
Olearia Haastii	Viburnum Awafurki
Periploca graeca	Xanthoceras sorbifolia
Prunus in var.	Zenobia pulverulenta

ONION.

Tricyrtis grandiflora.—It is unfortunate that this distinct as well as curious and interesting perennial should so early feel the effects of the slight frosts experienced this autumn. Quite

recently in a large garden I noted the foliage of this plant was almost as much as were Phillips and other tender things, due to some extent that it occupied a rather low and therefore moister position than is really needed for its requirements. Many years ago I grew several forms of this luscious plant on a somewhat warm border facing the south. In this position in good deep soil their flowering was assured year by year, some handsome tufts producing from a dozen to a score of their curiously spotted flowers that were quite attractive. The plants both grow and increase freely in warm sandy loam where the drainage is good, and on clay soils they should be grown on a south or raised border with some attention to their wants in this respect. The roots are perfectly hardy where the soil is well drained, but where this is not the case the crowns may be covered with coal ashes or short litter in autumn.—E. J.

KITCHEN GARDEN.

NOTES ON PEAS.

AMERICAN WONDER some years ago was a great gain but it was soon eclipsed. It was, I consider, a step in the right direction, as it did away with the necessity of growing the round white-seeded Peas which were small, of poor flavour and soon dried up. American Wonder was the forerunner of some of the best of our early Peas. Chelsea Gem soon followed. In this there was a longer pod, three or more Peas in a pod, and with distinct marrow flavour, with the same advantages as regards earliness and dwarfness. Wm. Hurst possesses the same good qualities but is of a different colour. William the First was a grand introduction and is still largely grown. It is, I consider, inferior to many of the later introductions. Exonian is an excellent early variety of really splendid quality, far superior to American Wonder and earlier than William the First. My favourite early Marrows are Gradius and Excelsior. Gradius is a grand Pea. I am not a lover of the small early Peas with only three or four Peas in a pod, neither are the cooks, and when such varieties as Gradius and Excelsior can be had, nearly or quite as early sown in pots it is not worth while to grow smaller kinds. In mid-season varieties there has been the same progress, and there is a really wonderful selection here. Again, the dwarfing has been carried out with due attention to quality and crop. Many of the new varieties bear pods quite down to the soil also in pairs, and what is of great importance to the gardener give a succession. Eureka, a 3-feet variety, is a fine addition to the summer Peas. Veitch's Main Crop, a new Pea of great excellence, also a 3 feet variety, is an immense cropper and will be a standard variety. I am very fond of Sharpe's Queen and Magnum Bonum Marrowfat, a splendid dwarf type of great cropping qualities, and remarkable for its quality in hot, dry seasons. Criterion is what may be termed a fillbasket. Daisy is a good all-round midsummer Pea. It is one of the newer types and remarkable for its cropping and quality. Another Pea which I consider still worthy of front rank is Stratagem. The well-known Veitch's Perfection is still a reliable mid-season Pea, and in certain soils equal to Ne Plus Ultra in quality. From this variety many of our new dwarf Peas have been raised, and though last in my list of mid-season Peas it is one of the best of the older selections. For late crops few varieties can equal Late Queen and Latest of All. Late Queen is a dwarf variety, and in quality quite equal to Ne Plus Ultra; pods large, broad, dark green and free from mildew. Latest of All is a 3-feet Pea of

a dark green colour and rightly named. Sturdy, a dwarf Ne Plus Ultra, is an excellent late Pea for heavy soils and equal in quality to the older variety. Those who like tall varieties for late use cannot do better than grow Ne Plus Ultra. G. V. WEBBES.

— William Hurst sown on a south border in November is always the first. It has only failed once in fourteen years, and the crop is quite as early as that obtained by sowing indoors in pots, or on turf and transplanting. I have seen reported that equally early results are obtained by sowing late in January instead of November, and this is doubtless true but the difficulty is, that sowing cannot be recommended sometimes for quite two months after the new year, and when this is so the November sown crop is a long way the earlier. Perhaps my most reliable sorts, writing from a purely cropping standpoint and not touching the exhibition question, are William I., Criterion, Sharpe's Queen, and Walker's Perpetual Bearer, although, given sticks of sufficient length and plenty of room, Ne Plus Ultra might be substituted for the last named. For small gardens I should recommend William Hurst, The Daisy, and Stratagem for size and flavour allied to productiveness.—E. BURRELL, *Clarendon, Essex.*

— In the early section, May Queen, and Early Marrow, sown on the same date, were ready for gathering at the same time, and as early as the selected strains of the early round varieties. Being Marrowfats there is a considerable gain in these over the round-seedled sorts, and in the market they command a much higher price. These grow to a height of 24 feet. Chelsea Gem proved the best of the dwarf section, and with me better than English Wonder, William Hurst, or American Wonder. The pods in this variety are of good size, the haulm sturdy, and its height an advance on that of the others named. Stratagem holds a foremost place among the early kinds, indeed this is most largely used for sowing in boxes for early planting, and its cropping and high cooking qualities make it still a favourite. Criterion was one of my best maincrop Peas, and certainly my experience of it in such a trying season will justify an extended use another year. Gladiator has not done well. Sharpe's Queen did very well, but there was but a short succession of gatherings. Holloway Rival is a good midseason variety. Its pods, which are not very long, are filled with unusually large dark green Peas. This should be a good variety for small gardens where dwarf Peas are valued. Magnum Bonum until overtaken by the drought was very promising, and what pods did fill showed plainly what a grand Pea it would be in an ordinary season. Its habit is branching, and podding powers extraordinary, so much so as to appear all pods when viewed from one end of a long row. Holloway Victory is another tall Pea, particularly suited for late sowing, and was the least affected by the dry state of the soil in these gardens. It is not so prone to mildew as many others, and for this reason is suitable for late autumn use. It is not one of the large showy exhibition varieties, but is, nevertheless, a most useful table Pea.—W. STRUGNELL, *Rood Ashton, Truroshire.*

— My first sowing usually consists of Sanger's No. 1, William I. and Exonian. The successive sowings are made of late and midseason sorts sown at the same time, which ensures a longer supply from the same sowing. For instance, if Webb's Senator and Autocrat are sown at the same time, the former will be fit to gather when the latter is coming into bloom. Senator is an immense cropper. With these two I make a sowing of such as Dwarf Mammoth, Satisfaction, Jubilee, President Garfield, Maincrop, Magnum Bonum and Matchless Marrowfat. I always allow 1 foot more in sticking the Peas than the catalogue height, although the year they are below their normal height. The Peas here are all mulched with half-rotted leaves from an old hedge and kept watered; by this means I have had an unbroken supply. British Queen and Ne Plus Ultra, which I always grow in

single rows about the garden in the best soil, often attain to a height of 8 feet. They are two good old indispensible sorts, which everyone should grow where high sticks can be obtained. Dr. McLean, Fortyfold and Telephone are good old sorts which I always keep to.—JOHN GARLAND, *Killerton, Exeter.*

— One of the best early Peas here this season was Gradius, which will be grown more freely in future for early supplies. This variety followed Chelsea Gem closely. Veitch's Early Marrow proved a reliable variety in such a season. Mid-season varieties were represented by Veitch's Main-crop, Sturdy, Duke of Albany and Criterion; for later supplies I trust to British Queen and Ne Plus Ultra.—R. PARKER, *Goswood.*

— Exonian will be grown largely here another season, I know no better kind for the early part of the year. Webb's Senator is the best mid-season variety that I have found this year, as it stood the dry weather capitally and is a great cropper of excellent quality; Prodigy and Duke of Albany were also good; Autocrat, Sturdy, and Ne Plus Ultra are the kinds I depend on for late sowing and they are hard to beat, the last especially.—WILLIAM NASH, *Badminton, Gloucestershire.*

— The best early Peas all points considered I consider are Chelsea Gem and William the First, and for second sowing Wordsley Wonder, Criterion, Stratagem, Sharpe's Queen, Prodigy, and Duke of Albany. For later gatherings Autocrat is a grand Pea in every respect, and which stands dry weather better than any sort I know. Sturdy is a very continuous bearer, and Veitch's dwarf Mammoth, a grand Pea for those who cannot procure tall sticks. Ne Plus Ultra is still one of the best. Walker's Perpetual Bearer is not so much grown as it should be, as the latest formed pods continue to swell even in most inclement weather and keep up the supply to a very late date. Of new Peas I have not tried many, being short of ground and having of necessity to keep principally to old and well proven sorts. I can, however, speak well of Veitch's Main-crop, Chelonsian, another late Pea, will undoubtedly take a front rank with all who require late supplies and appreciate the Ne Plus Ultra colour and flavour.—J. CRAWFORD, *Coddington Hall, Newark.*

— The favourite varieties here are Exonian, Criterion and Ne Plus Ultra, with Duke of Albany. In exhibition Exonian takes the place of William the First as a first early variety, of bold, strong flavour, dwarfer in growth, and ready for use a few days sooner. Criterion is a tall grower which might be against it where stakes are difficult to get, but for quality and a long succession of well filled pods I consider there is no better midseason variety. Ne Plus Ultra succeeds the foregoing, and although other late sorts have been tried none can equal this one, as good gatherings can usually be had from it until October, and mildew seldom attacks it. Dr. McLean and Webb's Senator are the best dwarf varieties that have been tried, and neither exceeds 3 feet in height. The latter is a new Pea and bears an abundance of well filled pods of excellent quality. Gradius has been tried for two seasons along with Exonian for the earliest crop, and has proved to be as early as the latter, the pods almost as large as those of Duke of Albany. For a border Pea it is valuable as the crop finishes off pretty much at one time when it can be cleared away to make room for something else.—JAMES DAY, *Galloway House, Garliestown, Wigtonshire.*

— With me William Hurst (or Chelsea Gem, as they are apparently identical) again proves to be the best early variety. It is dwarf, heavy cropping, and of superior quality. Sutton's May Queen, 2½ feet, is a remarkably good early variety, and may be preferred to any of the early round seeded varieties. Duke of Albany, though largely grown as a second early, was not a success this season, neither were Criterion nor Telephone. Sharpe's Queen stands out prominently as an excellent hot-weather variety, and in all directions I hear this sort highly spoken of

It attains a height of from 2 feet to 3 feet, and produces large pods well filled with peas of superior quality. Autocrat also behaved well this season, and is a good main-crop and late variety. Latest of All is a good companion for the taller-growing invaluable *Ne Plus Ultra*.—W. IGGULDEN, Frome.

I grow now as the very earliest Pea Veitch's Extra Early. Sown on a south border it is ready to gather about the middle of May. This is preceded by Chelsea Gem and American Wonder from pots. Exonian is the best to follow on as an early Pea, to be succeeded by Veitch's Main-crop and Prodigy, both mid-season Peas of the highest quality. When visiting in a northern district where the rainfall is twice as much as with us, I was informed that these two were considered the best. They are both splendid croppers and of excellent flavour. I grow *Ne Plus Ultra* for a late crop. The farmers in this

late Peas I have named are continuous bearers.—R. MAHER, Yattendon Court, Newbury.

—I found the best early Peas to be William L. Harbinger and First and Best; Harbinger coming first and proving a good cropper and of good flavour. Advanced did well, also Dickson's Favourite; it always carries a good crop of well-filled pods. Daisy has also done well. Telephone is our main stay, and has again proved one of the best. Dr. Maclean is another good Pea which has done well, and *Ne Plus Ultra* still holds its own.—R. S. WILLIAMS, Crosswood Park, Aberystwith, S. Wales.

TOMATO CULTURE.

In the cultivation of Tomatoes I attach much importance to the way the young plants are started. The seeds are sown thinly in boxes at the beginning of February and placed in a

item is important, too, as effecting a set of fruit low down on the plant, one of the tests of good culture. In plenty of instances my first bunches touched the earth as they hung. I plant firmly, ramming the soil down tightly around the roots. Air is given on all favourable occasions in the daytime, but of course in the early spring months we must avoid anything approaching a cold draught. Top air and warmed pipes provide a nice growing atmosphere, and the temperature is not allowed to fall below 50° at night. I run a single line of plants near the hot-water pipes and train them as single rods up the roof on both sides of the span-roofed houses. The trellis is a foot from the glass, and thus ample room is given for the development of foliage. This matter is often overlooked. This season I planted 9 inches apart only, but



Tomatoes at the Claremont Nursery, Woking. From a photograph by Mr. W. Baynham.

part of Essex, where Peas are grown to a large extent, all grow *Ne Plus Ultra*. I saw a fine late Pea in the kitchen garden at Brougham Hall, named The Don. It was very prolific and the quality first-rate. Mr. Taylor, the gardener, had made quite a trial of Peas, and the best were Prodigy, Veitch's Main-crop, Stratagem, and The Don.—J. DOUGLAS, Great Gearey Gardens, Ilford, E.

William the First Improved is still among the best of the first early varieties. Sutton's Bountiful is a good second early, and Duke of Albany has given good results. Autocrat is an especially good midsummer and late marrow Pea in a dry season. As a late variety, Reading Giant is a fine type of *Ne Plus Ultra*, and Latest of All is a fine type of late Marrow of a continuous bearing habit. Many of the latest new varieties have very fine pods, but the crop is soon over. The

brisk heat, where they quickly germinate. So soon as the seedlings are large enough to handle they are potted singly into 3-inch pots. They require careful handling and may be put low down, so that only the seed leaves are above the surface. I use any kind of soil almost, but have it rather moist, so that there is no need for water for a few days. The roots quickly get hold and the plants start growing at once. As soon as rough leaves come the plants are stoned on a shelf near the glass for the purpose of obtaining a dwarf sturdy habit. Too often we find Tomato plants allowed to get drawn up spindly in the young state. Chilled water is provided with regularity, plants on an airy shelf needing it often. When they are about 3 inches high, I plant them in their permanent quarters. This

intend to return to the distance of a foot. The close planting caused me to cut away the foliage more than I think desirable.

Up to the time of the appearance of the earliest flower bunches I water very sparingly, and do not mind if the plants flag a trifle when the sun is out, but afterwards this is always avoided. Side growths are promptly pinched out, and every day a slight tap with a stick is given to each bloom truss to ensure a perfect set. After the first fruits begin to swell I give abundance of moisture to the roots, but am guided somewhat by the rather large borders, which give to my mind a too free root-run. I would preferably have the roots confined to a space not more than 2 feet wide and 1 foot deep. In such a case one might water the plants

thoroughly almost daily and not force a soft sappy growth.

Tomatoes have grown in the same soil for three seasons, the only difference being that used for top-dressing. I shall, however, change it before another start, because the leaves had a slight touch of the spot. Ordinary sandy loam is the soil provided. In this the plants root freely and water also passes through it readily. When the crop is in full growth I sprinkle the surface of the soil with soot every week, thus being the only thing in the way of stimulants used the whole season. Abundance of air is always allowed on fine days, and at night the ventilators are only partially closed in the summer. Although I do not use fire-heat throughout, I should say the crop, which might not have been better, would most likely have finished without a trace of the yellow spot had I employed it. I am careful in trying to avoid any disease by watering with warm water, or rather that which has been made something near the temperature of the house, and never moisten the soil after the early morning.

Cutting the foliage is done with care and gradually. The primary leaves are just shortened at first near fruit that is about to colour, and so on up the stem as growth advances. The crop was a very good one, an average of seven bunches being well set on each plant. The lower bunches were very heavy and fine. In most cases from six to ten fruits finished on each. The photograph was taken in August after I had gathered daily since the end of May. The sorts grown principally are Chemin Rouge and Sutton's A. I. Their only fault (and a serious one) is that they are apt to crack, especially if not gathered just when they are on the point of turning colour. Apart from that these sorts are most excellent. H. S.

Stachys tuberifera.—This vegetable seems to be much appreciated in the dining-room, and it is certainly profitable from a gardener's point of view, as such a large quantity of tubers is produced from a single root. Moreover, a row can be planted here and there between other things where only a minimum amount of light can penetrate, as in such situations it does well. The best way to plant the tubers is in moderately deep drills in well-manured ground, giving a distance of from 9 inches to 1 foot between each tuber. They are best left in the ground and taken up as wanted, as they are quite as hardy as the Jerusalem Artichoke. In preparing them for cooking, all that is necessary is to wash them in warm, soft water, as on no account must they be cut or bruised, or the flavour is spoiled.—C. C. A.

Moss-curdled Endive.—I place little value on the Moss-curdled section of this winter and spring salad, except where there is a heavy demand for salad during November and December. It then pays to grow a good batch, as it can be used up at that season and the broad-leaved varieties spared for later use. The one great drawback with the curled is that it damps off so quickly, unless the autumn is exceptionally fine and dry, the centres rotting away in a surprisingly short time. Where Endive is preferred in October to Lettuce, I have sometimes seen the Moss-curled variety blanched on the open border by placing flower-pots over the plants as they stand, or by laying a common builder's slate on them. This type with me this season commenced to rot in open borders in October, owing to excessive rains and several early frosts. My advice is always to get it into pits or frames at the end of September, so that the wet can be kept from ruining it.—J. C.

Tomatoes and food.—At p. 339 "A. W." notes the growth of Tomatoes in ashes, and in his remarks on the well-doing of the plants in a restricted root space goes on to say he is surprised how well such plants fruit without food, the roots

going down into the ashes. Here "A. W.'s" marks are well worth consideration. Do we not feed Tomatoes to excess? In my opinion the rich food these plants have, with the loss of leafage also as many cut back hard, is the forerunner of disease and spot. We well know there is little support in coal ashes, but if they have lain up a time they get solid, and the roots in such a season as last summer delight in the cool bottom the ashes afford; and though food such as "A. W." advises is soon absorbed by the ashes, the latter remain moist longer than soil and the plants benefit greatly. This points out the use of particular green growers' less food, as where planted out in manure soil there is more difficulty in setting and cropping. The difficulty is greater where the soil is good with food given freely and the plants kept warm.—S. M.

Ripening forcing Seakale crowns.—To get early Seakale of the best quality it is necessary to obtain a good growth in mild weather, and with the absence of frost the leaves in seasons like the present are not inclined to fall. It often happens that lifting must take place at an early date to get early produce. In heavy land it is an easy matter, to facilitate early ripening of sufficient roots for the first forcing, to take a fork and gently lift each root a little out of position, breaking away the fibrous roots at the base. This checks growth and does not harm the plants. In a few days they may be placed in heat and will force more readily. I have seen bad results from placing roots in heat with green tops or having to break away the old leaves, the roots pushing out small shoots, the main crown refusing to move. By adopting some such means as the above to check growth, forcing is easier in every way. All roots, no matter whether for late or early supplies, are best lifted in the autumn, trimmed and laid in soil ready for use, as there is thus a saving of time and labour.—G. W. S.

Storing Onions.—Until I read Mr. Young's notes on these in a recent issue of THE GARDEN I had thought that most growers had found that ripe, dry Onions were virtually frost-proof. I have kept such under open roofs, exposed not only to two or three, but 30° or more of frost, and they were not a whit the worse. No one need trouble to cover Onions if he will only dig them first and keep them dry afterwards. Under such conditions there is little or nothing in the texture or substance of onions for frost to lay hold of. Whether further proof needed it is found in the enormous quantities of foreign Onions from France, Normandy, and Germany hawked about in uncovered ropes in all weathers through the towns and villages of Britain without the slightest apparent injury. Your correspondent, however, may be excused for taking excessive care of his Onions, the most important of all the crops of the garden. Thorough ripening is most essential to successful keeping, and so are perfect shelter from rain and dew, and a free and incessant circulation of air. Overfeeding into grossness, late sowing, thick sowing, careless harvesting, damp, and close, warn stores lower the quality of Onions, expose them to injury from frost and foster the early growth that precede their decomposition.—D. T. F.

—Mr. Young says it would be interesting to know how much frost Onions will stand without injuring their keeping qualities. Mine are always stored in an open shed with a slate roof. In the severest weather no other protection is afforded. I do not know the amount of frost that they have had to endure, but should say the thermometer would frequently have registered 25° two years ago, yet no harm happened to them, as the bulbs were quite sound till those in the open ground were large enough to stand which is usually at the end of April or early in May. There is no variance in the keeping qualities even of the same varieties, much depending on the way they are harvested. In my opinion no rain should be allowed to fall on the bulbs after they have been pulled up, for when they absorb so much moisture it is seldom they keep well. Large bulbs, too, are more apt to decay earlier than smaller ones, as the latter contain a less amount

of moisture. I have always found Onions keep best in an open shed where there is a constant circulation of air, but even these places, unless facing north, get warm at the end of April so that a cool store room would then be preferable. I usually sow the Queen in August or early in September, the young plants being put out in October. By so doing fine bulb, which are usually preferred by cooks to those which have been stored, may be had. The present autumn has been a bad one for the growth of such things, the plants not being more than half the size they usually are. Onions are one of the principal crops in most gardens, as they are required at all seasons of the year, therefore their sound preservation till the young ones are ready for use is of great importance.—H. C. P.

CHRYSANTHEMUMS.

THE EARLSWOOD NURSERIES.

For a period of something like thirty years Mr. Wells has been a cultivator of the Chrysanthemum, and the Earlswood Nurseries are now recognised as one of the most important homes of the popular flower from the Far East. The nursery, situated close to the Earlswood Station on the London, Brighton, and South Coast Railway, consists of ten glass structures, in which was arranged one of the finest trade collections, both in extent and quality, that we have seen for some time. Novelties from many sources are on trial, but Mr. Wells prefers those raised by M. Ernest Calvat, as giving the best results and also for easiness of culture. The American novelties are, he finds, more difficult to grow and later to bloom; whereas the French varieties are earlier in coming into bloom, and consequently of greater value for exhibition at the English shows.

Among Mr. Wells' experiments may be mentioned two greenhouses full of plants grown on the American bench principle, but the results are not encouraging. The best varieties under this system of treatment are Le Moucherotte, Boule d'Or (Calvat), Surprise, and Souvenir de Petite Amélie, all of which were planted and grown in the greenhouse since April last.

We also passed through one house devoted to the various forms of them, mostly, I think, worthy of note being Miss Wodehouse, Princess Rose Pink, Ethel Sargent, Emily Wells, and Miss Mary Anderson, from the last named of which many of Mr. Wells' novelties have been raised. Another house contains a vast collection of novelties, and of these we propose to give a few notes in their proper sections.

Continental seedlings claim the premier position and are, of course, chiefly varieties of the Japanese section. M. Calvat's seedlings certainly show no sign of deterioration. Perle Dauphinoise is a large, globular, Japanese incurved, with rather narrow florets, sharply pointed at the tips, and of a rich shade of orange-yellow. Boule d'Or, seen last season, is as good as ever. Mlle. M. A. de Galbert is a fine white Japanese of extra large size. M. Benj. Giroud, a crimson Japanese, although not over-large, is very attractive. Captain L. Chauré, quite new, is also an incurved Japanese, of a beautiful shade of golden bronze, and pale yellow towards the centre. Calvat's Australian Gold, introduced this spring and certified last season, maintains its reputation, and will undoubtedly prove to be a formidable rival to others in the same shade; it is very pale, pure yellow. Ma Perfection is a closely incurving Japanese, big, solid, and good. Mrs. J. Lewis is another variety from M. Calvat, sent out this spring, blooms large and deeply built; also a white. M. Ed. André has long, curly, intermingling florets, deeply grooved; colour inside carmine, with reverse of old gold. Vicomte Roger de Chézelle is of the Japanese incurved type, the florets rather narrow and grooved, colour rich golden yellow, slightly shaded carmine

Of older kinds raised by this eminent Frenchman, we noticed excellent examples of *La Moucheotte*, Mme. Ad. Moulin, *Le Rhône*, Mme. M. Ricord, *Noces d'Or*, President Borel, *Reine d'Angleterre*, Louise, M. Gruyer, Hy. Jacotot fils, Mrs. C. Harman-Payne, and probably a score of others. *L'Emindra* is now, a very pretty Japanese, creamy white kind, florets narrow, habit very dwarf. Mme. Mevus de Proll, another novelty, a pure white Japanese, is large and solid. Some grand examples of *M. Cheron de Lechêre* were remarkable, and measured fully 8 inches in diameter. Among other novelties from this source, the exhibitor will do well to look out for *M. Fourier*, Dr. Duvidier, *Fleur Grenobloise*, Mme. Gavatte Henry, *Les Ecrins*, &c.

Chrysanthemums of American origin are equally interesting, although less numerous. Col. W. B. Smith, Mr. E. G. Hill, Mutual Friend, W. H. Lincoln, Lord Broome, W. E. Newitt, Autumn Less, and Bonanza of Castlewood are sufficiently well known not to need description and are finely flowered. Latest *Fad* is a rather loose Japanese with narrow flat florets, colour golden yellow flushed bronze; Major Bonaparte is very pure pale yellow, a doubtful incurved; H. L. Sunderbruch, a yellow Japanese, is in good form, as is Master Bates Spaulding of a pale lemon-yellow. Most, however, of the American varieties are well known to the up-to-date collector, and the remainder need only be mentioned by name, and are The Queen, Louis Boehmer, Mrs. Alpheus Hardy, Mrs. Libbie Allen, Eda Prass, Niveum, and several more.

The incurred section was well forward considering the earliness of our visit, all the leading show varieties being in good form. Miss M. A. Haggas, *Globe d'Or*, C. H. Curtis, Mrs. Heale, *The Teck Family*, Baron Hirsch, D. B. Crane, Mme. Darier, The Queens, Barbara, Mme. Frederic Mistral, and almost every other well known variety being freely represented. English and Colonial seedlings in the Japanese section also claim a place in the Earlswood collection. One of the best is *Emily Silsbury*, a new English white Japanese; *Pallanza*, Sunflower, and Charles Davis, three prominent yellow varieties were in excellent form. The Shrimps and Sowards took pride of *Madras*, a rich rose amaranth Japanese, incurved from Australia, and Osmans of similar build, but yellow in colour and of a like origin, were both cold and massive in form. Dr. Bideneop, another Colonial seedling, a Japanese, colour purple mauve with silvery pink reverse, shows us what can be accomplished in seedling growing at the Antipodes. Mrs. Briscoe Ironside, a lovely shade of salmon-blush, a Japanese incurved, is a charming flower; Mrs. H. Weeks the large white Japanese incurved introduced last season is as big as ever, and an exhibitor's flower. The new yellow Japanese Edith Tabor and Mrs. Herman Kloss, chestnut and bronze, both last year's novelties look quite as well as when first shown. We have seldom had occasion to notice a Scotch seedling except Duchess of York, but at Earlswood there is a very delicate-looking pale yellow Japanese called Dr. Benny, which was raised in Scotland and promises to be much sought after. Most of the hairy sections of any value are grown, but *Esau*, a very pretty shade of pink, certainly deserves a passing mention.

Chrysanthemum Modesto.—In this we have a flower which will be highly prized by all exhibitors, and one that will occupy a high position. It very much resembles in style a well-known *M. Pachet*. The florets are of good width, very long and prettily curled, forming a large, very full and deep blossom. The colour (the richest shade of deep yellow) is very striking, and not seen in any other variety. This novelty was raised by Messrs. Nathan Smith and Son, Adrian, U.S.A. A nice batch is now flowering in the Framfield Nursery, Sussex.

This *Chrysanthemum* is perhaps the handsomest new variety seen up to the present time this season. It is in colour a deep rich yellow. The flower is large, extra deep, and in-

clined to incurve its florets. The bloom has splendid substance. Those who grow for exhibition will do well to add this to their collections. The growth is dwarf and sturdy. It was raised in America, and it seems impossible to imagine an improvement in its particular type. Yellow *Chrysanthemums* have had first-rate additions of late. Edith Tabor, Modesto, *Phœbus*, and *Oceana* are four which far surpass any of the older kinds.—H.

Chrysanthemum William Tricker.—This variety may not be what exhibitors would call an up-to-date show bloom, but for those who go in merely for, say, from half-a-dozen to nine average blooms on a plant for conservatory decoration, it is well worthy of a place. Its colour is most pleasing, being of a bright rose with gracefully incurved petals, the reverse of which are of a delicate silvery shade. In this locality it opens perfect flowerless crown buds are taken. One strange thing in connection with William Tricker is the fondness earwigs show for the blooms, which they riddle into threads if not rigidly sought for and destroyed. This variety is of extra short growth, but this makes the plants more useful, the few stems as they can be worked into the front line in a group, or when the plants are arranged on a conservatory or greenhouse stage.—A MIDLAND GROWER.

CUT-DOWN CHRYSANTHEMUMS.

I HAVE seen in THE GARDEN this form of growth spoken well of. I cut mine down on May 13, both Japanese and incurved; they then formed their buds too soon. I took out the tips on July 9, when the resulting buds did not show until September 9 to 12, which is much too late. I also took out the tips of all other forms which did not break by September 9, and most of the buds are late and small. Any information on the above will oblige.—ANXIOUS.

* * * By cutting down the plants so early as May 13 "Anxious" made the first mistake, at least, by operating on the bulk. A few sorts that are particularly late in forming flower buds may be cut back by the middle of April with good results. The Japanese varieties, Mrs. F. Jameson and W. G. Newitt, are two which may be so treated, also the newer ones. Mrs. Weeks, Mrs. J. Shimpton, Dorothy Seward, and a fort-night later than May 13 would be most suitable date for the majority in an average season. Again, there are just a few notable kinds that require to be cut back about the second week in June to obtain blooms of a satisfactory character. Mme. Carnot, Vivian Morel, Charles Davis are three which may not be selected from early buds, and therefore the latest date named is preferable in that case. "Anxious" did wrong in again topping the plants on July 9, sufficient time could not be had to obtain well ripened growth. The object of cutting down *Chrysanthemums* is to get plants of a comparatively dwarf nature well clothed with foliage from the pot upwards, but one must do it in the case of nearly all varieties at the expense of the ultimate blossoms. Striking the cuttings in November and December may be done as in other modes of culture, and the young plants carefully potted and grown on in the same way. The idea is to obtain strong, well-rooted plants in 6-inch pots before they are cut down. By having well-rooted specimens to operate on we get them to break into growth quickly after being cut back. They should be cut down, leaving but 6 inches or so of the hard single stem. It is well at this time to place the plants in a frost-free place to prevent water freezing in them, in any event. For a few days keep the roots rather dry and sprinkle the leaves only two or three times daily. This is most important, because if the roots get at all soddened in their inactive state they may be killed, and a severe check to the plants will consequently follow. The frame may be kept partially closed at first, and air given in increasing quantities as the new growth pushes forth. When the young shoots are about 3 inches long put the plants into the open again and water at the roots as required. At

this stage they may be placed into their flowering pots and at once put in the summer quarters. Do not be in a hurry to thin out the shoots. Wait to see which are likely to grow in the most even manner, then select from three to five and train them to sticks. In most instances it is wise to select the first flower-bud that appears, that is, if one requires large blooms; but if only the flower-bud is removed, little shoots which form close to them are of a soft nature, and are there and the plant ready to push them up at once, instead of feeding the flower-buds.

H. S.

CHRYSANTHEMUMS AT SYON HOUSE.

The *Chrysanthemums* at Syon House are remarkably fine this year, the early varieties now being at their best. They occupy eight of the fruit houses which are now at rest, and are so arranged that each flower can be seen. There are about 1200 grown, half as standards and bush plants, while others on the cut-back system are showing remarkably fine blooms. They all average in height from six feet 6 inches upwards, the foliage looking greenish healthy, which always adds to the beauty of a *Chrysanthemum*. Very prominent amongst the Japanese are Elaine, Charlie Davis, Eynsford White, Amos Perry, Mrs. C. H. Payne, John Lightfoot, Miles Lacroix, W. Tricker, John Lambert, Robert Owen, Mine. B. Pigmy, and Mrs. W. Dreer. Turning to the incurved varieties, very noticeable are Jeanne d'Arc, Brookleigh Gem, Mrs. Dixon, Queen of England, Empress of India, Lord Alcester, Baron Hirsch, Emily Dale, Mr. Bunn, John Doughty, Golden Queen of England, and Golden Beverley. Although *Chrysanthemums* are not grown at Syon for exhibition the above mentioned are quite worthy of being placed on an exhibition board. There are some noteworthy flowers of Mine. Carnot, Etoile de Lyon, Ralph Brookbank, R. Ballantine, Miss Dorothea Sheva, Vivian Morel, Beauty of Exmouth, and Hairy Wonder. In the last house are seen a few bush plants just coming into flower. Noticeable among them are Lady Selborne, Soucis d'Or, Elaine, Vivian Morel, Edwin Beckett, and Etoile de Lyon. In the large conservatory are seen a few of the single-varieties tastefully arranged among other plants. Miss Mary Anderson is very striking, flowering profusely with four and five flowers on a truss. Miss Rose is also grown to a large extent and is very fine. As there is a large demand for cut *Chrysanthemums* at Syon they come in very useful especially at the end of the year, when other flowers scarce. L. Canning and Lady Lawrence are largely grown for Christmas work. The new Golden Dart promises well for late flowering. It is a very dwarf-growing variety, which is a great gain, and the colour is charming. These late varieties are all grown as bushes, this being the best mode for quantity of bloom.

W. J. M.

Mildew on Chrysanthemums.—Many remedies for mildew exist now-a-days, all of which are doubtless effective in their way. An old *Chrysanthemum* grower told me recently that the old-fashioned remedy of spraying the foliage with sulphur-water he found to be as good as anything. A little flowers of sulphur was first dissolved in a muslin bag and then put into a vessel containing soft water, the plants being sprayed the following day after it had settled. In this way he said he managed to defy mildew, although living in a damp locality. The plants were sprayed once a fortnight.—C. C. H.

Open-air Chrysanthemums.—The success of open-air culture depends to a very great extent on the forethought bestowed on the selection of varieties which will either flower early enough to be in bloom before the October frosts mar their beauty, or they must be hardy enough to withstand

stand a few degrees of frost without showing its effects in discoloured blooms. For the early supply Mine Desgrange and its allies may be relied on, but Lady Fitwygram usually gets nipped even in this comparatively favoured locality, and anyone requiring pure white flowers must have these sorts under glass after September. Sœur Mélanie, one of the frost of all second early varieties, is a real gem for October blooming, and when we get favourable suns it well repays cultivation out of doors. For the really later and later bloom it is useless growing any but the hardiest pompons. Of course sheltered positions may be selected for this beautiful autumn flower. I have seen good blooms on plants trained on walls or fences quite late in November. Those who live on the south coast have to reckon with wind almost as much as frost, for here, unless pretty effectually screened from the fury of westerly gales, no flower after it is fully expanded would be of much service.—J. G., *Essexport*.

Chrysanthemum Source d'Or.—Perhaps a more useful variety for gardeners whose chief need is an unlimited supply of bloom for cutting, can not be named for this season of the year than Source d'Or. Fortunately in addition to its vigorous habit and extreme freedom of flowering, its colour, which is usually described as orange, but which I should term brick-dust, is a popular one just now. It is a capital companion for that most excellent variety Ryecroft Glory. Source d'Or produces its flowers on long stems, the reverse of so many even of the free-flowering section, which makes all the difference when arranging them in tall glasses and vases. I have several cut backs which were potted on in February into large pots and have been well assisted all through the summer with farmyard liquid, and at the present time they are throwing a wealth of blossom. Speaking of cut backs I think gardeners who are not desired to grow show blooms, stand in their own light by casting all the one-year old plants away as soon as the cuttings are taken. If potted into say from 10-inch to 12-inch pots in rich compost of the greatest possible manure being removed, and the plants tied out by sticks, so as to form large bushes double and treble, the bloom can be secured to what can be got from yearling plants, however well grown. Those who have no time to spare for staking need not scruple to try these second-year plants, as they do very well indeed if a single stout stake is thrust into the centre of the pot when growth is getting advanced and a strong strip of matting tied round.—C. C. H.

Late-flowering Chrysanthemums.—From a market-grover's point of view the late-flowering Chrysanthemums are by far the best, as they come in at a time when cut flowers or pot plants are usually in great request, and when prices are higher all round, than while the mid-season varieties are in bloom, and when, owing to the great quantities grown for exhibition and other purposes, that eventually find their way to market, the price is, even for good blooms, very low. Any one having good, fresh blooms at Christmas and for a month afterwards can almost invariably obtain a price that repays the extra trouble and expense of having to keep them. The kinds that are naturally late in forming their buds have been greatly improved during the past few years, and now we have in Mrs. Canning, Nivéum, Princess Victoria and other ideal plants that make the work of retarding an easy matter. Of course no routine of culture all through the season is distinct from that which suits the earlier flowering sorts, for the final stopping, on which a good deal depends, may be done a month later than would be safe for the early ones. I pinched a good many of mine at the end of July. After trying both pots and planting out in the open ground from May to the end of October, I can confidently say that, although the finest blooms may be got from pots, there is nothing like planting out for producing a quantity of good serviceable blooms.

I have during the past week lifted several hundreds of dwarf, stocky plants full of buds, and after shaking the soil away, so as to get them into

small pots, they are set in a shaded place, where they can be temporarily covered at night, and if syringed overhead every day they hardly lose a leaf, and make a fine display during the shortest days of the year.—J. G., *Gosport*.

SHORT NOTES.—CHRYSANTHEMUMS.

Chrysanthemum Mrs. A. J. Parker.—This is a very charming Japanese variety, well suited



Streptocarpus Wendlandii.

for the border by reason of its free-flowering properties. The colour is a pleasing pink with salmony shade, very beautiful for vases and the like.

Chrysanthemum Pallanza.—The blossoms as a whole of this are rather pleasing in form, but in habit and growth generally the plant is

among the most wretched and unsatisfactory, and stands greatly in need of improvement in this respect.—GROWER.

Chrysanthemum Golden Sheaf.—This is a dwarf compact-habited plant, a little more than 2 feet high, and bearing great quantities of pleasing yellow blossoms. Among the October flowering varieties this will doubtless prove very serviceable, as the flowers expand in a free and easy manner, the flat strap-shaped florets having an orange flush at the base. It is an English seedling raised by Mr. E. H. Jenkins.

GARDEN FLORA.

PLATE 1092.

STREPTOCARPUS.

(WITH A COLOURED PLATE OF S. HYBRIDS.*)

ALTHOUGH it is only ten years since the large-leaved, red-flowered *Streptocarpus Dunnii* first bloomed at Kew, and was at once crossed with *S. Rexi* and *S. parviflorus* (now called *S. luteus*), the progress made in the development of the new race of garden plants then inaugurated has been remarkable. In addition to the various hybrids and crosses raised at and distributed from Kew, we have now several divisions or strains identified with the establishments where they have been bred, i.e., Messrs. Veitch's strain, Messrs. Laing's multiforma strain, Messrs. Sanders' large-flowered strain, &c. Every year produces further developments either of colour, size, or free-flowering, and it is evident that the capabilities of the *Streptocarpus* have not yet been exhausted. For the possession of this most useful and now generally cultivated race of greenhouse plants we are indebted mainly to the introduction of *S. Dunnii*. This species was discovered in the Transvaal in 1884 by Mr. E. G. Dunn, of Cape Town, who was at that time connected with the Geographical Survey. He forwarded seeds of it to Kew, where a large batch of plants was raised and planted all round the large beds in the succulent house. Here they flowered in May, 1886, the leaves then being about a yard long and half a yard wide, the flowers, which were produced on numerous erect branched scapes a foot high, being 1½ inches long and coloured clear red. Previous to the introduction of *S. Dunnii*, the genus was not represented in horticulture, with the exception of *S. Rexi*, which was cultivated by comparatively few. Other species, viz., *S. polyanthus*, *S. parviflorus* and *S. Saundersii*, were grown in botanical collections, and hybrids raised from them were recorded from time to time, but they failed to lift the genus out of the obscurity in which it remained until the advent of *S. Dunnii*.

In THE GARDEN for 1886, vol. xxix., p. 474, a plate was published representing several hybrids that had been raised at Kew from *S. Rexi* and *S. parviflorus*. A comparison of this plate with that published in THE GARDEN for 1892, vol. xii., p. 124, and with this of to-day will show how great an influence *S. Dunnii* has had in the development of these plants. Other species have since been introduced and utilised by breeders, but none of these have added any character of any value, although some of the hybrids thus obtained are very remarkable. All the popular seedlings raised so far are the progeny of the three species crossed at Kew in 1886, namely, *S. Dunnii* with *S. Rexi*, which produced *S. kennedyi* and *S. Dunnii* with *S. parviflorus*, which produced *S. Watsonii*. These were awarded

* Drawn for THE GARDEN by H. G. Moon in Messrs. Sanders' nursery. Lithographed and printed by J. L. Goffart, successor to Guillaume Severyns.



first-class certificates in 1887, when Dr. Masters wrote of them : "These two hybrids are very striking, and we can hardly doubt that they are



A white-flowered *Streptocarpus*.

the foundation of a new race of plants parallel in importance to the Achimenes and Tydeas. . . . They are the beginnings of a new class of greenhouse plants of much beauty and interest.³⁹ The hybrids were again crossed with *S. Rexi* and *S. parviflorus*, the large ungainly leaves of the first cross being against their becoming favourite pot plants. These crosses gave most marked results, the range in colour and size of flower and in the habit of the plants being considerable. A selection of the most distinct of them was obtained by means of exchange by Messrs. Veitch, and they were also freely distributed to other nurseries and private gardens, including Messrs. J. Laing and Sons, Forest Hill. Messrs. Veitch at once saw their value, and Mr. Heal, their propagator, took up their cultivation and improvement with such zest that in a year or so he produced some very fine varieties.

As cross-breeding among the seedlings progressed, however, it was seen that the red colour was breeding out, blue-flowered seedlings predominating. The introduction of fresh blood from *S. Dunnii* therefore became necessary, and although this affected the size of the leaves, it restored the red shades, which are most admired. So far as my observation goes, I am convinced that a re-infusion of *S. Dunnii* blood will be necessary for the retention of the red colours in the flowers. There is plenty of evidence to show that a race of plants which had its origin in hybridisation and is perpetuated by means of seeds soon changes its character, the characters of one or the other parent predominating in the seedlings to such an extent as to finally work out all trace of the weaker parent. It is probable that many garden races originated in this way have long since lost all trace of the characters of all except one parent. *Cineraria* may be a case in point.

The seedlings represented in the accompanying plate might be called improved varieties of

S. Rexi, for they possess practically none of the characters of *S. Dunnii*, except a trace of red colour. I have seen them in Messrs. Sander and Co.'s nursery, thousands of them, and they are all alike in their close resemblance to *S. Rexi*. At Kew there are many seedlings which undoubtedly are descendants from the first hybrids raised, and they are almost pure *S. Rexi* except in colour. So far seeds are of no value for the reproduction of any colour variety, seeds of a white form producing blues, &c., red forms producing whites and blues, and so on. Whether it is possible ultimately to get the colours so differentiated and fixed as to be reproduced from seeds cannot be told so far, but reasoning by analogy there is little hope of it. Seeds should be saved only from the best varieties, and the crosses made should be with a view to improvement, not merely hazard.

The only species of *Streptocarpus* that has refused to intercross is the caulescent one, *S. caulescens*, but we do not despair of overcoming whatever the obstacle may be. *S. Dunnii* crossed with *S. Wendlandii* gave us *S. Dyeri*, the most gigantic of all species or hybrids, its leaves a yard long, and its flower scapes in sheaves nearly 2 feet high, crowded with purple-red flowers. *S. Fannini* crossed with *S. Rexi* yielded a tree-flowering and elegant hybrid with numerous large leaves and crowded slender scapes of lavender-coloured flowers. This has been very attractive this year in the temperate house at Kew, where it forms a margin to one of the large beds. *S. Galpinii*, figured in THE GARDEN for 1892 (vol. xl., p. 256), is one of the

Mr. Galpin found it and sent it to Kew about five years ago. *S. gratus*, raised by Messrs. Veitch, is almost identical with *S. Watsonii*. A cross between *S. Rexi* and *S. polyanthus*, and named *S. Bruanti*, and one between *S. Rexi* and *S. Saundersii*, raised in 1882 by the late Mr. Charles Green and named in compliment to him, are other hybrids. These, however, are not such as find favour with cultivators generally.

The cultural requirements of *Streptocarpus* are now generally understood. They are accommodating plants, thriving in almost any soil if light and not kept soddened, and in any temperature between that of an ordinary frame and the stove. They enjoy sunlight, but should be shaded in very bright weather, and they grow very freely in such soil as suits Balsams, Gloxinias, Coleus, &c. The seeds should be sown in February in heat along with Gloxinias and tuberous Begonias, and the seedlings pricked off as soon as they can be handled. The best plants are produced in shallow beds of light rich soil in a warm frame or warm greenhouse. If the seedlings are planted in this about 8 inches apart they grow rapidly, and will flower freely all through the summer. If wanted for pots they can easily be lifted when the soil is wet and planted in 5-inch or 6-inch pots, shading them for a few days after the operation. When the plants are over two years old we throw them away, but some cultivators keep them longer. The flowers are useful for table decoration, and they last when cut about a week.

W. W.

Treatment of Freesias.—I find the great thing with these useful winter and spring-flowering bulbs in order to secure a strong growth is to bring them on very gradually at first, as if hurried in the least failure is sure to follow, the flower-



Streptocarpus hybrids.

prettiest and most distinct of all the species, but I am afraid it is lost to cultivation, and although seedlings were raised from it crossed with several others, its characters are not very evident in them. This plant ought to be reintroduced. It is a native of Swaziland, where

stems not appearing, or if they do, being weak and puny. I have abandoned the practice of placing the pots on ashes and covering them with leaf-mould with other bulbs, as if not very closely watched and removed directly growth commences, they will in a few days draw up so as to be quite

useless; in fact, I know of no other bulbous plant that starts into growth so quickly when covered with leaves or coco-nut fibre. I find the best way is to place them in quite a cool greenhouse as soon as potted, keeping them tolerably dry until growth commences, and then to remove them to an intermediate house. Freesias are generally potted up early, gardeners thinking that the bulbs are useless for late work, but if they are kept in a perfectly cool store they may be potted as late as March with very good results. —J. C.

THE WEEK'S WORK.

FRUIT HOUSES.

LATE GRAPES.—Special attention will be needed in all houses where Grapes are hanging, especially with those that will not be required for use till spring. Muscat of Alexandria, though requiring a high temperature to bring it to maturity, soon shrivels if exposed to a warm, dry, airy atmosphere, therefore great care will be needed to keep the berries plump till required for use. With so much wet it has been necessary to keep a gentle warmth in the pipes to expel damp, and where the roots are in the soil the borders, unless covered to ward off the rain, the soil will have become thoroughly soaked, causing the berries to be charged with juice to their utmost capacity. When in this condition the least amount of superfluous moisture in the atmosphere of the house in which they are hanging will cause them to rot. At this time of the year the bunches should be examined every other day in case there should be a mouldy berry making its appearance. If any are found, they should be at once removed, taking care in doing so not to injure the footstalks of the others by twisting them or by pricking with the point of the scissors. A couple of thin sticks may be used to extract the mouldy berries, one to hold up the others to make room and the other to remove these cut off, by so doing there will be less injury to the bloom. November is the worst month of the year for ripe Grapes, there being so much moisture in the atmosphere, to which may be added fog, fallen leaves and sunless days. It is, however, not advisable to remove the bunches from the Vines till after the turn of the day, when they may be cut with long pieces of wood attached and placed in bottles of water in the Grape room. Black Grapes, such as Alicante, Lady Downe's, West's St. Peter's, Gros Colman and the like, that have not long completed their ripening, will show no signs of losing their plumpness, but Hamburgs will begin to lose their freshness, and will therefore require careful attention, if they are required to be kept till Christmas, as the skins of ripe berries are very tender and therefore easily affected by damp. Where there are any falling leaves these should be at once removed and everything done to keep a dry atmosphere, so that no condensed moisture settles on the berries. The temperature of a viney in which Grapes are hanging should not fall below 40°, and if possible should be prevented from rising above 55° on bright sunny days. Air should be afforded at all times except in frosty weather, when only just sufficient fire-heat should be used to keep up the requisite temperature to prevent the moisture settling on the berries. Where Grapes have been cut and removed to the room, the bottles should be examined occasionally to see that they are full of water. It is always best to have an extra bottle or two, and instead of taking them down from the rack with the bunches in them, after filling one bottle wipe the outside with a cloth, then replace it in position, lifting the bunch from the next one and placing it in the one which has been refilled, by so doing there will be less injury done to the berries. Be careful not to fill the bottles too full, as the wood attached to the bunch will take up a certain amount of room, which if thrust in too rapidly will cause the water to shoot up through the neck of the bottle. Grape rooms usually being dark, there is not that

amount of evaporation as in vineries, therefore in damp weather strict attention must be paid to keeping the atmosphere of the room at such a temperature as will prevent any moisture from settling on the berries. When the air of such places is much below that outside, condensation soon takes place, and if this is not checked mildew will soon cause the berries to decay, therefore close attention must be paid to ventilation and expelling damp. So long as fire-heat in such places can be dispensed with, the plumper will the fruit remain, but when this becomes actually necessary see that it is not overdone.

FRUIT ROOMS.—All fruit having now been stored, it will be found necessary to frequently examine the same, in case there should be any signs of decay. Many of the mid-season Apples and Pears will now be past their best, but where they can be kept cool their season of usefulness may be prolonged for a short time, which will help to preserve the later ones. Long-keeping varieties should be spread out evenly, that they may be examined without turning them over. The majority of fruit rooms are ill-adapted for keeping Apples and Pears, as they are too dry and dusty, and the shelves too far apart, thus necessitating their crowding being packed too thickly together. To extend the season of usefulness of these fruits they should be kept in a cool, even temperature, and this without a drying atmosphere. All such places should be provided with ample shallow shelves or drawers, that the fruit may be spread out as thinly as possible. The windows ought to be provided with shutters, which should be kept closed at all times, except when a person is at work. When it is found necessary to hasten the ripening of Pears these should be removed to a warmer temperature; in fact, this fruit is usually much better flavoured if placed in a warm room a few days before it is required for use, but as many varieties only remain in perfection a very short time, care should be taken not to hasten too many at once.

POT STRAWBERRIES.—Any plants still remaining in the open should be put under cover at the first available opportunity, or, in all probability, the pots will be split with the frost. Of the various modes adopted in different places, I have found none so good as storing them in cold frames, for in these, in case severe frost should set in, they can be protected with ease, and may also be removed to the houses at any time when required. When stacked, as some recommend, it often happens that they are hard frozen just at a time when required. Air should, however, be freely admitted both night and day, that the crowns may be thoroughly matured. The main secret in successful Strawberry forcing is to have well-matured crowns and healthy roots. It sometimes happens when the plants are allowed to get severely frozen that many of the roots are destroyed. If the plants are plunged in ashes it is seldom that watering is needed, and the plants are taken indoors for forcing, but should any be found to get too dry they may easily be looked over once a week. Those intended for the earliest batch should by this be thoroughly hardened, and allowed to have a rest by with holding water until they are introduced into the forcing house. There are often many blanks in the first batch owing to too much fire-heat being applied directly after they are started. Where no more convenient place can be found, a shelf near the glass of an early Peach house will suit them, but they ought always to be in such a position that ample air can be afforded without coming into direct contact with the foliage. Better early crops are usually obtained from houses than pits, as there is generally a free circulation of air, owing to there being a greater amount of surface exposed. Where it is contemplated starting a Peach house the Strawberry plants may be placed in position; growth will then be steady. As other houses are prepared the plants may be introduced in like manner, provided no fire-heat is applied. It has been previously pointed out that boxes are preferable to pots for growing the latest batches, for, owing to the greater bulk of soil in

them, they do not so soon get dry. Where these have not already been provided, they can be made on wet days, and the plants turned out of the pots and planted in them, taking care to make the soil as firm as possible, otherwise it will be difficult to keep the balls round the plants moist. The boxes may be stored in cold frames, as recommended for the pots. H. C. PRINSER.

KITCHEN GARDEN.

RHUBARB.—Where Rhubarb is required for Christmas it will now be time to commence forcing, it being much better to allow plenty of time for steady growth than to hasten it too much; the cooler the forcing quarters are kept, in reason, the better will be the colour, which is a great attraction in forced Rhubarb. Probably the simplest method of forcing the earliest lot, where conveniences exist for the method, is to lift the stools and transfer them bodily to a warm corner of the Mushroom house, where they may be packed round with a goodly quantity of half decayed, moist leaves, as these will conserve moisture already present in the balls of soil and cause the new growth to come away kindly. I like, too, to cover the crowns over with an inch or two of the same material, as I find that all kinds of deciduous vegetables, as well as other plants of a similar nature, which make their growth from what are commonly known as "crowns" start more freely when these crowns are more or less buried than they do with more exposure. Although the Mushroom house is a good position for forcing Rhubarb, it is by no means the only one that can be carried out with success, without interfering much with the legitimate occupants of the structure, for good produce is often grown under the stage of a greenhouse in which a growing temperature is maintained at this time of the year; it certainly starts best in the dark, but light is not inimical to it after growth has commenced. After lifting the stools a few days, exposure to the air will be beneficial and should be given, if time will permit, and if the nights are frosty so much the better. My usual practice here is to force the Rhubarb where the plants have been grown as, to carry out the method described above, the stools would have to be carted about half a mile, so I go through the whole forcing season, working on the same method, except that the very first batch is forced to its fullest extent, and the stools from this batch are destroyed later on, the stations being then dug up and replanted each in turn. In four years I get right through the plot, and in this way always have comparatively young plants with which to work. I use skeleton boxes to cover the stools, and as I find these very cheap and excellent for the purpose a description of them may be useful. The foundation of each box is formed of two squares made of 2-inch thick wood railing well nailed together, one of these goes at the top and the other at the bottom, the former is 18 inches and the latter 24 inches in width. To these are nailed on each side one or two pieces of scantling (according to width) of sapwood or outside waste from timber, and this completes the box, which should stand, when finished, about 21 inches high. No attempt is made to fit the side pieces closely so long as they are close enough to prevent any quantity of the covering material from falling through. When these boxes are placed to position over the crowns, loose pieces of scantling are laid across them to act as lids, and they are then covered with the forcing material, which usually consists of two-thirds good hard leaves and one-third long-stabbed litter, put on alternate layers instead of being mixed throughout, the orthodox mixing not being a necessity in this case and adding to the labour. Stable manure is by no means a necessary adjunct to the leaves, though it quickens the action of fermentation, but whatever is used must be in sufficient quantity to come at least 6 inches above the tops of the boxes. I prefer a long and rather narrow bed, covering only two rows at a time, for when a greater breadth is covered the growth from those stools towards the

centre is apt to become, through overheating, spindly and pale. My practice is to begin forcing about the middle of November, and I usually commence pulling the crop during the second or third week in December. A second batch is covered directly I begin pulling from the first. I have gone thus far into detail of my practice, more especially with regard to the earliest batch, as I believe I get far more produce from stools forced in this way than grown than I should from a similar number of lifted stools placed in other quarters, and the result to the plants is the same in each case, as neither is worth much after the crop is pulled. I grant that the lifting has its advantages, but they do not outweigh those of the system I practice.

PEAS.—November-sown Peas frequently fail unless grown in a garden with exceptional climatic advantages, and where slugs, pheasants and other pests to the gardener are but little in evidence. The crop has generally to be fostered through months of uncongenial weather and protected from many enemies, all to produce a dash or two of half-grown pods a day or two in advance of those sown two months hence, and which will beat those of the November sowing in the matter of cropping. Very early Peas may be worth the trouble it takes to produce them, but my opinion is that they are not so. Those, however, who elect to try what can be done in this way must now set about preparing for and sowing the crop. In selecting the position for the crop, it is best to choose a wall border facing south, but the wall is the only permanent shelter that is advisable, for the plants will not make satisfactory growth where they are closely sheltered on other sides, and I prefer to use the most open part of the border well away from the side walls or hedges. A free circulation of air is necessary to the plants at all times, and any further shelter required in addition to the sticks or Pea guards must only be temporary if they are to remain sturdy and strong.

In preparing the ground I do not advocate the use of fresh manure at this time of the year, but would choose a plot which has been double-dug and well manured for a previous crop; a plentiful supply of wood ashes, however, very beneficial to the plants. If the land is not in good heart and manure is considered to be necessary, it should be in a highly decomposed state and buried deeply, which can hardly be done by plain digging, so it will be wise to double dig to bring the manure in the bottom spit. As the latter process will loosen the ground too much for the well-doing of the plants if left in that condition, each layer of soil should be trodden more or less heavily, in accordance with its nature, as the work of digging goes on, for though the plants are deep rooting, the roots become more fibrous when they meet with a fair amount of resistance in their downward progress. Borders for early Peas should be elevated somewhat above the surrounding level. The distance between the rows must be governed by the height of the variety chosen, and the drills should be drawn flat-bottomed, about 3 inches deep and double that in breadth. An ample supply of good seed must be used, as it must be remembered that we are now sowing not for a large number of pods on each plant, but for a few on each of as many plants as can be grown on the space. The seeds should be damped and rolled in powdered red lead or covered with chopped furze to prevent mice from eating them, the latter precaution being supplemented by setting traps to catch the mice. Of varieties it is unwise to use more than one, mine did not being satisfactory, and I plump for that excellent variety *Chinese Gem*, which embodies most of the good qualities sought for in an early Pea. Throughout the midlands and further north this is the best time to sow; further south it will be better to wait until the end of the month or the first week in December.

BROAD BEANS.—Concurrently with the sowing of Peas, a sowing of another variety of Broad Bean may be made. Broad Beans like full exposure to the air, so it is needless to devote any portion of a valuable south border to their pro-

tection. They prefer a somewhat heavy soil and are capable of assimilating a large quantity of manure, which should be dug deeply into the ground. Sow the seeds rather more thickly than was recommended for the summer crop, and put in also a patch of seed to provide plants for any gaps that may occur. When the plants come through the soil some of this should be drawn up in bank form on each side of the row or rows, and the plants may require some further protection in hard frosty weather, which is best provided by strewing Bracken along the rows. Very little time is gained by sowing now, except in those gardens where there is no glass protection available for raising plants early in the year, but in such places it is desirable to raise sufficient to give for dishes as it is possible that the ground may be frost-bound or so wet for disturbance since the time comes for the earliest sowing after the new year, and the grower who at that time a batch of November-sown plants in good condition will have the satisfaction of knowing that he has stolen a march on the season. Beck's Dwarf Green Gem is just as hardy and more prolific than the *Mazagan*, which used to be such a favourite for sowing at this time of the year, so I give the former the preference.

MANURE.—This will be wanted in goodly quantities shortly for digging into the ground. Where it is brought from the stables to the manure yard in small quantities weekly there is necessarily at times some neglect in its proper preparation, and the present is a good time to rectify any such neglect by overhauling the stock in hand and dividing the short from the long, putting each in a separate heap. Outside linnings from the forcing frames and pits may be served in the same way, and the long manure may be returned and added to, if wanted for protection, while the short should be put ready for wheeling where required in frosty weather. I like to see all manure which is, or will be, fit for digging in during the next few months, then one can adjust the quantities to the crops, instead of finding oneself without any manure in fit condition before digging is completed, as I am convinced that few things are more responsible for the failure of early crops than manure dug in when not fit; this is really bad practice on light soils, and I would rather use half the quantity in good condition than add to the bulk any that is unfit. That which is too long or too new to be used soon may well be built into a big square heap—the higher it is built the better—and it will form a most convenient body on which to pour any available stable drainings or the like when anything of the kind can be obtained. A third heap may well be made of that which is partially decayed, as this can be brought, by turning now and then, into good condition for digging in during spring.

J. C. TALLACK.

ORCHIDS.

NOTES ON ORCHIDS.

As I anticipated some time since, the tropical weather of early autumn has brought many Orchids on more rapidly than usual, and also, unfortunately, has caused some to grow unseasonably. In the warm house growth has settled down considerably, *Phalaenopsis*, *Aerides*, *Vandas*, *Saccobolus* and a few *Angraecums* already showing signs of the season in the points of the roots, *Dendrobiums*, *Catascutum* and others by the rapidly maturing growths. As a proof of the earliness of the season, *Dendrobium Wardianum* and *D. heterocarpum* are on the point of opening, the former quite a month in advance of its usual season, though the plants were kept in a cool Peach house until the flower-buds could be plainly discerned and signs of new growth were apparent at the base of the stems. *Dendrobium formosum* is

over, and luckily the pseudo-bulbs as yet show not the least sign of breaking into new growth, so that with ordinary care it should be easy to keep these practically dormant until the new year. *D. superbum* is just finished and the leaves have not as yet begun to turn colour. This species does not, I find, require so long a rest as some others, nor is it so long before the blossoms appear when once the pseudo-bulbs are matured. *D. cucullatum*, *D. tigrinum*, *D. Pierardii* and *D. primulinum*, also the smaller-growing evergreen kinds, as *D. aggregatum* and *D. Jenkinsii*, have all finished their growth and look well, but the tardy *D. Dalmatinum* has a lot of headway to make up. With this species it is really unimportant when the stems finish, as usually plenty of blossoms is produced from the older ones, and it is seldom indeed that the season's growth is ripened sufficiently to bloom the first year. *Dendrobium Parviflorum* is very impatient of water about the foliage and bulbs after the growth is complete, this causing both to decay; therefore, as soon as the growths have ceased to swell remove them at once to a sunny dry position. The more completely the earliest plants of *D. nobile* rest now, the more flowers will be produced and the better these will be in colour. I am presuming of course that the stems have been thoroughly ripened, as it is useless trying to obtain flowers, early or good, from half-green pseudo-bulbs, the probability being that the greater part of the nodes will break into growth instead. Too much haste with them will sometimes bring about the same condition of things, the plants being placed in a lot of heat and moisture at first. It is far better to wait until the shape of the little buds can be made out before giving much moisture at the root or placing them in a damp atmosphere. All the evergreen section must now be kept quiet, and the coolest part of the Cattleya house, or where the warmer section of *Odontoglossums* is grown, will be more suitable resting quarters for them than the drier ones frequently recommended for the deciduous section. *Tolumnias* should by this time be absolutely at rest, and must be kept quite dry and warm, stowing them away in any out-of-the-way corner. Great care is necessary in removing *Calantheas* from their growing quarters to living rooms, where this is practised. Owing to their dry and hard appearance, the notion appears to have gained ground that it is impossible to harm them by the roughest treatment, while, in reality, few Orchids are more easily injured by chilling draughts or a low temperature while at rest. A pretty effect may be produced in the flowering house next month by grouping the pink *C. Veitchii* and the varieties of *C. vestita* in alternate mounds, using only one kind in each, the whole being surrounded by Maiden-hair or some small-growing Fern to hide the rough-looking bulbs. The flowers last a very long time in good order if care is taken to remove the old ones as they begin to fade and not to sprinkle them with water. Watering at the root in the warm house may now be greatly reduced, but few plants requiring much. The larger growing *Angraecums*, perhaps, take more than any other, while *Saccobolus giganteum* must still be kept a little moist, so as to sustain the advancing spikes. The roots are the best guide; watch these closely and well consider the individual plant, and it is hardly possible to go wrong.

The Cattleya house is still very interesting, the variety existing among the forms of *C. labiatia* greatly enhancing the value of this grand old species, the loss of which would have been a calamity indeed. Many of the forms have the richly tinted lip, like *C. Trianae*, while

others more nearly resemble *C. Messia*, but all are beautiful and very useful, owing to their season of blooming. Most of the *Cattleyas* have by now completed their growth, but the nature of many of them is such that no defined resting season must be allowed. Take the early-flowering kinds, such as *C. Percivaliana* or *C. Trianae*, and although no growth is going on and apparently the plants are quiet, yet the water supply must not be too much reduced, for the flowers are forming and a certain amount of root-action is always going on. As hinted above, some of the *Cattleyas* are this season growing away again at the base, and already several plants of *C. aurea* have young shoots 1½ inches long, the roots also being equally active. Though it appears to be the wrong time of year to speak of repotting, any plants such as these that require it and have plenty of young roots just bursting from the rhizomes should have a shift. They will soon get a hold again and will be much better able to re-establish themselves if allowed a little more heat. The growth, too, will be quicker, and for this reason more likely to bloom, or if not, there should be time enough to get a young bulb made and ripened early enough for a flowering growth to start in spring. All this is of course a little out of order, and it is much preferable to keep the plants at rest, if possible, but when once they have started nothing can be gained by checking the forming growth. On the other hand, encourage them by the means indicated, and endeavour another season to keep them to their proper routine. There is less difficulty, as a rule, with the upright-growing, two-leaved set, such as *C. bicolor*, *C. guttata* and its many varieties, *C. granulosa*, *C. intermedia*, and several more, and if all these are grouped in the coolest and most airy part of the house now, there is little fear of their growing out of season. H. R.

Cattleya labiata picta.—This, one of the older forms of *C. labiata*, occasionally appears among newly-imported plants. A nice piece of it has seven blooms on two spikes, the colour of the front lobe of the lip being rich deep crimson, that of the sepals and petals being deep rose with a darker suffusion. All the segments are broad and well formed, making a full and beautiful flower, and the outline of the white yellow and crimson upon the lip is clear and well defined.

Masdevallia calura.—This is a lovely little species, one of the most attractive of all. The flowers are small, the petals united and long-tailed, the upper petal being a beautiful tint of crimson-purple, paler at the margins and tail, and deepening in the centre, owing probably to the closer disposition of the tiny hair-like processes upon them. In habit and general contour of the blossoms it most resembles *M. Reichenbachiana*.

Octomeria diaphana.—This is a singular and interesting little Orchid, in habit not unlike a *Rstrepia*. The leaves occur in pairs upon the thin, scaly stems, and the blossoms are produced on long slender stalks from the top of the latter. These are about 1½ inches across, the sepals and petals semi-transparent, narrow, and tapering to a point, creamy white. The lip has a yellowish-white margin, deepening inwards to bright yellow lines in the center with a crimson-purple disc. It requires plenty of water, and a thin, well-drained compost.

Masdevallia Chelsonea.—I lately noted a much improved form of this well-known hybrid in flower, showing the advantage of using the best forms only in hybridising. The varieties used in this case were *M. Veitchii grandiflora* and *M. smaragdina*. The blossoms are very broad and have the bright tinge of purple peculiar to the latter species. A nice variety of *M. Davisi* was also noted in bloom, the colour a delightful shade of yellow difficult to describe, and not unlike that of

some of our most gorgeous Dendrobes, rich and full, yet without quite clear. Both these beautiful plants do well in the cool house.—R.

Pleurothallis plumosa.—Though very small individually, the blossoms of this Orchid are very pretty when seen in good condition in the long arching spikes. They are also very pleasantly scented, their fragrance resembling that of newly-mown hay. The spike proceed from the apex of the stems at the leaf axil, are freely produced, and last a long while in good condition. It thrives well in quite a cool house, and requires plenty of water at the roots all the year round.

Cymbidium giganteum.—This fine species is now in bloom, and although the flowers do not last so well as those of *C. Lowianum* they are distinct and bright. In habit it very closely resembles *C. Lowianum*, and, like it, produces its spikes from the base of the pseudo-bulbs. Newly imported plants do not, as a rule, flower very constant, but once they are well established they are as constant as those of any other kind. Many flowers are produced on the scapes and they are greenish-yellow when first open, becoming deeper with age. The sepals and petals are striped with

way. In a house such as suits *Cattleyas* the progress will be rapid, and if any of the plants require repotting, it must be seen to before the young roots are far advanced. The pots must only be of medium size, clean, and well drained. For strong plants a little loam may be added to the usual compost, but weak or small ones should have the peat or Sphagnum Moss only, a few pieces of charcoal being added to prevent coarseness. Keep the pseudo-bulbs rather above the line of the rim and pot firmly, watering with care for some time afterwards. *M. pardinum* is a native of Mexico, and was introduced in 1837.—R.

FLOWER GARDEN.

KNIPHOFIAS.

THE Torch Lilies, or Flame Flowers—as *Kniphofias* have long been popularly called—are among the handsomest and most brilliant flowers of the early autumn months. Not exclusively confined to this period, however, for



Kniphofia hydrata Triumph. From a photograph sent by Herr Max Leichtlin, Baden-Baden.

purple, the lip spotted with bright crimson. This plant may be grown in rather large pots, a good proportion of loam being mixed with the peat and Moss. It thrives in a cool, shady house and requires plenty of water all the year round.

Mormodes pardinum.—I have received a small spike of bloom of this Orchid from a correspondent for a name. It is rather an uncommon plant, and well worthy of more extended culture. The blossoms occur in crowded spikes, and are yellow with a small spot of crimson crimson. The culture of *Mormodes* is not difficult, yet in many cases they are seen in poor condition. As often as not this is owing to being grown in too much heat and a dry atmosphere. From the time the blossoms are past until the young growths start in spring, a minimum temperature of 50° is ample for this species, and being deciduous very little water is required during this resting season. When seen to be again on the move the plants should have a good soaking of water, and after this be kept moist, as the roots soon appear, and these must not be checked in any

the forms of *K. aloides*, the *Tritoma uvaria* of so many years, are decidedly more summer-flowering than anything else. Indeed, owing to the remarkable way in which the varieties succeed each other in their flowering, we have much to be thankful for, as, no matter at what season they bloom, they are quite alone in the brilliant effect they create in the garden. In these respects they are unique. Among all the kinds, perhaps none can surpass the variety of *aloides* known as *grandis* in the gorgeous effect that may be produced by it alone. Noble in stature, its giant stems towering to 8 feet or 9 feet high, and bearing aloft its giant heads of brilliant flowers, it produces an effect in garden scenery not obtainable by any other plant. Less in stature, though decidedly more free-flowering, is the typical species, a plant still invaluable, because generally much more hardy and enduring. Thus it is that we meet in way-side gardens bold and handsome clumps of this

fine old plant that have existed for years with little or no care. If a good deal of the hardness of this plant could be imparted to the majority of recent hybrids, what an array of these flowers might be seen in the best hardy plant gardens in a year or two. Many of the kinds, however, are sufficiently hardy to be brought safely through our ordinary winters with a slight protection of some kind, and this they fully deserve. It may be well in some instances, where the varieties are somewhat tender, to take this point into consideration at planting time, and, by associating them with other things, provide them at the same time with a sort of natural shelter. But where this cannot be done, the little protection needed may easily be supplied them in almost any position in the garden. Even the old form so familiar to all is sadly weakened in certain winters when growing on heavy soils, not by actual frost or snow so much as the changes of temperature to which the plants are subjected. Very frequently snow is a source of danger to these plants—I mean wet snow in the crowns of the plants; or, again, where severe frost sets in immediately succeeding a season of heavy rain. Large clumps may easily be protected against these evils by gathering the leaves together in a sort of pyramid and tying them loosely to three or four stakes or stout Pea sticks. In doing this the innermost leaves must be first taken in the hands and secured, adding now and again sufficient dry straw or Bracken to allow of air reaching the foliage in the bundle; thus a tuft of Bracken thrust to the top of the sticks from inside will prevent the wet lodging in the centre of the plant. Beyond this a good heavy mulch of coal ashes, cocoa fibre, or short litter about the base will suffice to keep these Flame Flowers secure even in very hard weather. There is one peculiarity in these plants very noticeable in old clumps of K. aloides and varieties of their desire to push fresh growths from below ground, a valuable stock often being saved from extinction in some collections by these alone when a severe winter has killed the main crowns to the ground.

There is one system in vogue when sending the strong-growing Kniphofias to this country from abroad that cannot be too strongly condemned, viz., sending a stump about a foot long and with half a dozen root fibres, the leaves having been cut clean off at the height named. This treatment is invariably fatal to the plants, and always so to those thus treated in autumn and laid in by the heels or planted in the border. The only possible way to deal with such pieces when received in autumn or winter is to place them in as small pots as possible and stand in a dry, airy frame, keeping them comparatively dry at the root and not allowing any wet down to the heart of the plant. I have seen scores, and possibly hundreds, succumb to this practice of defoliation. It is quite another thing to do it in March or April with returning growth, but even then it is neither helpful nor desirable, and should always be avoided, particularly with plants that have been lifted and divided. Perhaps the best time in the year for transplanting Kniphofias is the month of March or quite early in April, as at this time new growth will be apparent above ground, and with it activity below also.

Among the more recent kinds, the following stand out very conspicuously. In Pfitzer's colour reminds one of that of the scarlet trumpet Honeysuckle, the flowers being also very long and bright in colour throughout their length. Otto Mann is a very free-flowering

variety, the flowers of a pleasing orange shade, the spikes large and freely produced. John Benary is very distinct, with fine spikes of coral-red flowers. Burchelli has dense spikes of dark crimson-red flowers; this commences to flower in August, continuing for a long season. A very pleasing variety is Solfaterra, with yellow blossoms that are quite distinct. For distinctiveness and general effect combined, Coralina is worth special note, its brilliant scarlet flowers, which presently shade to orange-red, being heavily reflexed at the mouth, a characteristic well developed in the beautiful and well-known Macowanii. In Victor Lemoine, the possessor of very long, dense spikes that rise to 4 feet high, the colour is a tawny orange, with vermilion shade, while Floribunda has massive spikes of rich crimson, very showy and well formed, and, as implied by its distinctive name, produced in great numbers also. The new variety Tucki has blossoms of a bright yellow. It is one of the very earliest to bloom, besides bearing the reputation, which among these flowers is of great worth, of being the hardiest and most vigorous of all the tribe. Should this eventually prove the case generally, Tucki should be freely used by hybridists, as a perfectly hardy and enduring race would be invaluable in our gardens.—E. J.

Herr Max Leichtlin, of Baden-Baden, who kindly sent us the photographs from which the illustrations were prepared, sends us the following notes concerning the two fine forms figured:—

I have sent you two photos of *Kniphofia Nelsoni* and K. *hybrida Triumph* to show their free-flowering qualities. K. Nelsoni was discovered by Mr. Wm. Nelson when travelling a few years ago in the South African Republic. Opinions at first varied, and perhaps do so still, as to its value as a garden plant. It is the most free-flowering species I ever had under cultivation; it is elegant, not too large, flowers very late, and the long narrow spikes strike one by their form and bright colouring in shades of scarlet. It surpasses Macowanii, and I am confident it will become a favourite when introduced in strong, well-rooted clumps. Of the small groups about six or seven spikes will have broken off by a storm previous to having been photographed. The second picture shows K. *hybrida Triumph*. K. *aloides* var. *nobilis* was the female parent, and K. *comosa* the male one. It is, perhaps, the best of my seedlings up to date, and is a stately plant with luxuriant foliage, the flower-stalks reaching a height of 5 feet, and the spikes are often 9 inches long, of a bright deep yellow colour. The comose condition of the male parent has been strongly developed in the offspring, and many stalks have become branching, often producing one large and three small spikes.

Origin and names of the late or florist's Tulips.—The following notes on these Tulips are from a recent note from a correspondent, answering a question as to the early names of the late or florist's Tulip:—

The earliest English name of the Tulip was Tulipa, or Turner Flower, and when the florists took up their culture from seed the seedlings were called breeders until they broke or became rectified, as it was called. The florists really checked and ruined Tulip culture, and what we now want are seedlings breeders by the thousand, as they are mostly beautiful self-coloured kinds, and an artist or a gardener would pray that the number of all these would be great, instead of seedlings self-coloured late Tulips. The Dutch would only rear them and sell them by the thousand, and our gardens would gain much beauty, and seedling or late Tulips would be name enough for them. M. Krelage's Darwin Tulips are simply Belgian breeders, and to name them all as he did at starting was too much of a bad old habit. It is no use naming breeders Tulips, as they may change at any time and so soon become rectified again. Tulipa is the Italian rendering of tulband, the Turkish name for a turban. Some authors say Tulipa

is derived from thonlyban, Persian for a turban. Gesner first figured and described the garden Tulip, which he saw in 1559 at Augsburg soon after its introduction from Turkey by Odier de Busbecq to Clusius at Vienna in 1558 or earlier (?) T. Gesneriana). Turban Lilies and Turk's-cap Lilies were old names.

Spot in Carnations.—In common with many things both in the fruit and vegetable garden flowers have their enemies, some easy to deal with, and only a fair amount of perseverance is brought to bear upon them, others more or less difficult to overcome, and which are not easily overcome, as basal rot in Daffodils, and the like, which are respectively responsible for the loss of Gladioli and Lilies. A more careful consideration of diseases of the latter type is forced upon us this season when contemplating the havoc wrought by the spot in many bracts of the Carnations. Those who can boast of clean, healthy grass on all their plants have cause for rejoicing, for in some places the enemy is at its worst, and two or three lots that I have seen are in a very sorry plight. It is very annoying, after one has taken a lot of trouble in layering and in all the after necessary attention, to have the plants affected in this way, and that despite the oft-repeated application of remedial measures. Given a fairly dry time, one stands a good chance of getting the upper hand of the pest after a thorough wetting with the sulphates of copper and lime mixture, but in a season like the present the heavy rains are doubtless responsible for a speedy and effectual cleansing of the foliage. In no previous year has it been necessary to renew the dose so often with apparently fruitless results. Where the disease is at its worst, perseverance in the use of the mixture would seem to be the only plan, and a lot of clearing off (if not four-fifths) is obtained, and then there is a good chance of the plants growing out in time. In the majority of places where plants are badly affected the disease made its appearance suddenly and increased with great rapidity. Some five weeks back a friend forwarded a few well-rooted layers of some new sorts that were clean and healthy and have remained so ever since. Some three weeks after their reception I had a letter inquiring after their welfare, and the information that all the stock from whence they came was very badly affected with spot, an instance at once of the suddenness and the localisation of the attack. It is to be hoped that the visitation will not tend to any check to the cultivation of this favourite flower, as I think that not in one season in twenty are we likely to experience so much trouble in arresting the progress of the disease.—E. BURRELL.

LILUM CANDIDUM.

In reply to E. J.'s question as to the thoroughness with which I have dried white Lily bulbs, I may say that I remember on one occasion keeping them out of ground fully two months, quite too long for their foliage to be called autumnal. I tried this plan very thoroughly, and more than once steeped the bulbs in copper and other anti-fungoid solutions before drying them. I have also tried spraying the foliage both while healthy and on the first appearance of the disease with Bouillie Bordelais, but nothing has come of any of my remedies, and very sadly I have relinquished all hope of flowering the white Lily in my garden—very sadly, because, as "E. J." says, we have nothing that can vie with it; no other Lily can for a moment be compared with it. "E. J." also asks whether the healthy Lilies in the cottage gardens, which I instance, produce their autumn leaves. Certainly they do. Why should they not? This very day I have seen their great healthy tufts. "E. J." will, of course, understand that I am not questioning the truth of the benefit found by him and his correspondents from this drying process. I have written only to point out that it is not a universal remedy, and probably he will agree with me that in such a case negative evidence is weightier than positive, for it is certain that in my case the remedy is quite ineffectual, while in his case all that can be asserted is that dried Lily bulbs have on cer-

tain occasions escaped the disease wholly or partially. But this escape may not inconceivably have been a coincidence and not the result of such drying, that is to say, the seasons which followed the drying may have happened to be unfavourable to the development of the disease. We should demand the proof of immunity following upon the application of the remedy not once or twice, but several times, before inferring confidently that the remedy and the immunity from disease are truly cause and effect. Moreover I cannot believe that open sun or shade, a high and dry or a low and damp situation can be demonstrated to be a cause or agent the disease, for it is the general experience that white Lilies under any or all of these conditions may be either healthy or diseased. In my own neighbourhood the instances of disease and immunity set all such rules at defiance. One circumstance I may mention, namely, that in my own garden it used to be worth while to keep these Lilies even after the appearance of the disease, for it would sometimes happen that the flowers would race the disease and beat it, but of late years the flowers themselves have succumbed every season, and white Lilies no longer exist for me.

G. H. ENGLEHEART.

LILIES IN 1896.

Of the newer Lilies, the one that bids fair to be of the greatest value as a garden Lily is *L. Henryi*, which seems to thrive almost everywhere and to be indifferent to our variable climate, for last year, when we had so much rain, it flowered grandly, and this season with so many plants suffering from the drought it was even finer. Very few Lilies improve in vigour to the extent that this does. Another Lily of recent introduction has again proved itself to be essentially a greenhouse species. This is *L. nepalense*, which when first shown in flower attracted a very large share of attention, being so distinct from anything else. In this country, however, the bulbs go back (and that often rapidly) rather than improve under cultivation, whence it is necessary to keep up the supply of this species as of the Neelgherry Lily (*Lilium neilgherrense*), by continual importations. Where this is the case, Lilies such as this must, of course, soon become much scarcer, unless some of these more difficult Lilies are cultivated in their native country, where conditions are favourable to them. Japan, with *Lilium auratum*, furnishes a good illustration of this, for neither in this country nor in Holland, where so many Lilies are grown, can the cultivation of the golden-rayed Lily be made remunerative. Associated with *L. nepalense* in its native country is *L. sulphureum*, at first known as *L. Wallachianum superbum*. This is more robust in constitution than *L. nepalense*, and is a very distinct and ornamental late-flowering Lily. *Lilium Lowi*, whose bell-shaped flowers are white, spotted with purple, is another Lily from Upper Burmah. I have noted it in flower in many places this year. *L. Dalhansonii*, which is, as name indicates, the result of a cross between *L. dalzielii* and *L. Hansoni*, has proved remarkably vigorous, and in several places it was early in the summer very noticeable. Of older Lilies that have come more prominently forward than usual this year, the first place, I think, must be assigned to *L. philippinensis*. The slender stem and delicate grass-like foliage of this Lily appeal all the more to the huge, sprawling, pure white blossoms. Some ten or twelve years ago it was imported in considerable numbers and made a good show, but since then I have not met with it in any quantity. It is certainly a very beautiful Lily, but needs greenhouse treatment, and constant importations appear to be necessary in order to keep up the supply. The bulbs of many different Lilies are now sent to this country from Japan and disposed of principally at the auction rooms during the winter months. Most of these can be relied on as true to name. In the case of one, however, and that a great favourite of mine (viz., *L. Leichtlinii*), this rule is often broken, for the bulbs of this Lily are very like those of *L. Batemannii* and *L. jacundum* or *Maximowiczii*, and both of these last two often do duty for it. In beauty they are by no means its equal, for I think delicately pink flowers of *L. jacundum* are really charming. Last autumn I had some bulbs sent by two Lilies under the names of *L. umbellatum* Cloth of Gold and *L. umbellatum* Sensation. This latter, which was said to be a hybrid between *L. umbellatum* sanguineum and *L. elegans* Prince of Orange, was the earlier to bloom, as the first flower opened on June 5, just ten days after the earliest blossom of *L. umbellatum*, or davaricum, as it is often called. In this the leaves are broader and shorter than those of any form of *L. umbellatum*, and they were in a young state totally devoid of any suspicion of wooliness, which sometimes occurs but to a variable extent, in *L. umbellatum*. In the flowers the lower half of the petals was of a reddish orange colour, with a few distinct small brown dots, while the upper half, which was slightly reflexed, was deeper in

The dry summer led to the harvesting of the Dutch Lily bulbs somewhat earlier than usual, which, considering the large quantity of rain that has fallen since, was very fortunate. The earlier bulbs from Japan have already begun to arrive in this country, and large quantities of the Japanese form of *L. longiflorum* have been already disposed of. This variety is particularly useful, as it furnishes a good succession to the Bermuda *L. Harrisii*. The first consignments of *L. auratum* and *L. speciosum* have already arrived.

H. P.

CARPET PLANTS.

FINDING that the wet autumn has been responsible for the formation of quantities of tiny plants on each root of the old double Chamomile, I shall dot these in thickly on a portion of a large bed that is to be filled with the purple-leaved Nut. The foliage of the latter should show off well against the mass of white flowers furnished by the Chamomile. I suppose where *Gentiana acaulis*



Kniphofia Nelsoni. From a photograph sent by Herr Max Leichtlin, Baden-Baden. (See p. 399.)

colour than the lower portion, with just a suspicion of a violet tinge. In the variety Cloth of Gold the leaves were also short, but narrower, and more numerous than in Sensation; but the stems reached a height of about 2 feet, while the flowers were smaller than in the preceding and rather more upright, their colour being bright orange shaded with red, and with a very few brown dots towards the lower part of the petals. This was said to be a hybrid between *L. umbellatum* grandiflorum and *L. elegans* Prince of Orange, but the general appearance of the plant when in flower would suggest that *L. croceum* was one of the parents. In both the bulbs were like those of *L. umbellatum* or davaricum.

Of the different imported Lilies whose bulbs have reached here up to the present time, the first to arrive was, as usual, the Bermuda Lily (*L. Harrisii*), of which immense numbers are now sent to this country. Then, following closely on this, we usually get the Madonna Lily (*L. candidum*) from the south of France, whose bulbs are in most cases this season very much smaller than usual.

does thoroughly well, it would take absolutely the first place as a carpet plant, the lovely flowers placing it easily above those things that are only effective in a mass, such as, for instance, the alpine Phloxes, Aubrietas, &c. Do not remember to have seen it more thoroughly at home anywhere than at Cowdray, where Mr. Geeson has broad edgings of it in the pleasure grounds round isolated trees and conifers, Fagus, Gram, &c. It was invariably the most robust health, had completely covered the space intended, and was strongly straddled with fine strong flower-buds. One little point noticeable was that in those cases where the central plant was tall and of dense habit, the Gentian was not quite so good on the north side. No special feature seemed essential in its cultivation—just the annual lifting, division and replanting as soon as practicable after the flowering season is over. The soil is apparently a light sandy loam, and the grounds, from their formation, are invariably well drained, possibly rather too much so in a season like that of 1896. This is a slight illustration of what may be

effect in the way of carpet plants by hardy perennials—not perennials perhaps in the strictest sense of the word, because the majority are all the better for an annual, or at least a biennial renewal, but perennial in the sense that they occupy the same position right through the year, including the cold, dull weather, than that the foliage is really always bright and healthy, independent of the floral display. For small borders, narrow slips in front of walls that are clothed with creepers, I have found clumps of such things as *Saxifraga umbrosa* and *Houcharia sanguinea* very acceptable. Neither makes much annual growth, and so in comparatively restricted quarters they are seen to the best advantage, and in both cases I find the spikes of flower very handy for vases. In a fairly shaded position a trial might be made of *Polemonium humile*, a variety that does not exceed a third of a foot in height and which makes a capital carpet plant given a favourable situation. The newer departures in *Aubrietas*, as exemplified in *Leichtlinii*, *rosea*, and later in *Royal Purple*, and in the alpine *Phloxes*, as in *vars. Model* and *Vivid*, have given us new shades in the dwarfed of the carpet plants, so that permanent beds may get in their broad edgings or mixed planting an endless variety of colour. One more note on dwarf plants, not necessarily carpet. By all means give a place to hardy *Cyclamens* if a suitable situation can be found for them.

Claremont.

E. BURRELL.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

NOVEMBER 5 AND 6.

The second exhibition in connection with the National Chrysanthemum Society's jubilee celebration was held on the above dates in the Royal Albert Hall, Westminster. There were over thirty-four classes provided in the schedule of prizes, in which the greater part was devoted to cut blooms, and also to those illustrative of the floral decorator's art. The display of cut blooms was of a thoroughly representative character, many of the classes afforded growers an opportunity of staging exhibits of the highest cultural skill of types of the Chrysanthemum now not so largely grow as hitherto, comprising reflexed, Anemones, and pompons. A considerable falling off in the number of competitors in the majority of classes was distinctly noticeable, yet there were quite sufficient in almost every instance to make the rivalry for premier honours of the keenest description. There was also evidence here and there of a want of freshness in some of the blooms, and this was accounted for by the use of the best and freshest of those in the first display when making up the stands on the second occasion. There was no lack of interest, however, on the part of exhibitors and others in the three principal cut bloom classes, and rightly so, as on this occasion the affiliated societies' trophy and the two Holmes' Memorial cups, one for forty-eight Japanese distinct, and the other for thirty-six incurred distinct, were of sufficient interest to themselves and a good competition. The cup by the Portsmouth Society of the challenge trophy was a popular one, and should assist materially to stimulate the interest in Chrysanthemum culture in that centre by this recently revived society. The most pleasing feature in connection with this success is that the blooms were contributed by two members only, although the rules of the competition do not limit the number. Mr. W. H. Lee, gardener to Mr. F. A. Bevan, Barnet, made up for his disappointment of the first day by securing again the two Holmes' Memorial cups with magnificent blooms. It was a matter for general regret that for the valuable prizes offered by Mr. F. A. Bevan for twenty-four blooms of white Japanese, three blooms each of eight distinct varieties, there were no exhibitors forthcoming. There are

now so many really first class varieties in cultivation of the purest white, that it will be a great pity if this class be allowed to drop out next season. Possibly with a long notice of an intention to repeat the offer, an effort would be made to get out for the particular competition, and in this season a new year's schedule a splendid opportunity would be given of making comparison between existing high-class sorts. The display of blooms by foreign members made a very poor show, and was distinctly inferior in quality to what might have been expected. The classes open to single handed gardeners were well contested and good individual flowers staged, while in the *bout de file* amateur section the blooms exhibited by them were of a high order of merit, and compared very favourably with most of the flowers staged in the open classes. Valuable prizes were again offered for trained specimen plants, the sums of money offered meriting a far better competition than that which now most regularly obtains at these exhibitions. An unsatisfactory feature in the plant competitions, from the public point of view, was the changing about of the plants used in the first show and fitting them in for other and similar classes on the second occasion. There may have been a few additions to the second exhibition, and this in the standard trained plants, but in most instances they were the original plants shifted about to suit the respective classes. The decorative classes were fairly well filled, although not so numerously contested as on the first day. The class calling for special notice was one for two vases of pompons and Anemone pompons arranged with any foliage for decorative effect; the first two lots being very beautiful indeed and distinctly an advance upon any previous effort. The miscellaneous exhibits were allowed to remain for four days, as also were the groups. The fruits and vegetables, too, remained right throughout the two shows. Altogether the executive have every reason to be satisfied with the result of their efforts, which afforded a large amount of pleasure and interest to many, and was also an object lesson to the many thousands who daily thronged the building.

PLANTS.

In the class for four trained specimens, any varieties, there were four competitors. Mr. J. Brooks, gardener to Mr. W. Reynolds, J.P., The Grove, Highgate, N., was placed first with even and very neatly finished plants of large size. These were freely flowered, carefully tied, the varieties being Maiden's Blush, very fine; Anna Bertie Renfrewster, good; Col. W. B. Smith and Chinaman. Mr. D. Donald, gardener to Mr. J. G. Barclay, Leyton, E., was a good second, having less even plants, although giving blossoms of good quality in most instances. For six standard trained specimens, large-flowered varieties, Mr. Donald was first, showing nicely finished plants of *Etoile de Lyon*, freely flowered; Col. W. B. Smith, and a good specimen of a white incurved Japanese variety. Mr. W. Davey, gardener to Mr. C. C. Paine, Cedar House, Stamford Hill, N., was a good second, his best plants being Elsie, a pretty reflexed; Stanstead Surprise and Cleopatra. There were four competitors in the class for four standard-trained specimens, any varieties, Mr. Davey being placed in the premier position with fairly good specimens of Elsie, Stanstead Surprise, Mine, Edouard Rey and Col. W. B. Smith. In the class for six trained specimen pompons, Mr. Donald was first and Mr. Brooks second. The only competitor for odd specimen Chrysanthemum, any type, pyramidal trained, was Mr. Donald, who had a very nice plant of *Sieur Melanie*, freely flowered and neatly planted.

CUT BLOOMS.

The first of the trio of important classes on this occasion was one in which the competition was open to Chrysanthemum and Horticultural Societies, and was for forty-eight blooms, to consist of twenty-four incurred distinct and twenty-four Japanese distinct, the first prize being the

challenge trophy held by the winners for one year, with £10 to be divided between those individuals making up the stands. It is pleasing to record that the recently revived Portsmouth Chrysanthemum Society was successful among five competitors for the honour. Messrs. J. Agate, Havant Nurseries, and C. Penford, gardener to Sir F. Fitzwylgram, Leigh Park, Havant, being the two members solely responsible for this fine lot of blooms. The Japanese were large, well coloured and free, and were well above the average of the second lot of blooms. Among the best were noticed Mr. and Mrs. Chas. Davis, M. M. Ricoud, Mons. Pankoucke, W. Seward, International, M. Cheson de Lyché, Mme. Carnot, Mrs. Geo. Carpenter, Ethel Addison, Golden Gate, Mile. Thérèse Rey, Beauty of Teignmouth (syn. Pride of Madford), and Van den Heede. Too much cannot be said in praise of the incurred in this collection, as they were represented by superb examples: James Agate, Emily Dale, Mrs. R. C. Kingston, Jeanne d'Arc, White Empress, Globe d'Or, C. H. Curtis (very good), Lord Alcester, Mme. Darrier, and a beautiful flower of Robt. Petfield. The second prize was won by the Bromley and District Chrysanthemum Society, six of its members contributing to the display, and including the names of several of the best known Kentish growers. The Japanese flowers in this collection were very good, though not so generally even as in the first prize lot, and they also lacked the colour which was characteristic of those of the premium stand. Mr. W. H. Lee, gardener to Mr. F. A. Lee, Tredegar Park, Barnet, reversed the order of things of the previous Tuesday, and well maintained his position as a grower of the highest order by winning the chief prize for the eight Japanese blooms displayed. This was of a high order of merit. The second prize was awarded to Mr. W. Mease (gardener to Mr. Alfred Tate, Downside, Leatherhead), with a fine lot of flowers, though slightly smaller generally. In the class for thirty-six incurred distinct, Mr. Lee was again first with a very neat and even lot of flowers. Mr. W. Higgs (gardener to Mr. J. B. Hankey, Fetcham Park, Leatherhead), was placed in the second position with good blooms. The collections of blooms from foreign members were very poor, no first prize being awarded. The second prize was placed to the credit of M. Ernest Calvat, Grenoble, France, with rather rough and small flowers. M. A. Sciarachano, of the Royal Gardens, Monza, Italy, was awarded third prize for a very indifferent lot of blooms. For the silver cup offered by Mr. F. H. Clemow, for twelve Japanese distinct, there were seventeen competitors, the premier award going to Mr. W. Robinson, gardener to Rt. Hon. Lord Juncos Lopes, for a superb stand, his varieties being Mme. Carnot, Oceana, Primrose League, Eudora Tabor, Mrs. Hume Long (one of the best I have seen), Pride of Exmouth, His Royal Wonder, Lady Ridgway and Standard Bluestreak. The second prize was awarded to Mr. W. Slagrove (gardener to Mr. C. Crawford, Gatton Park, Reigate), with an exceedingly nice stand of flowers. In the amateurs' class for twenty-four Japanese, in not less than eighteen varieties, there was a most satisfactory competition, resulting in Mr. J. Stredwick, Silver Hill, St. Leonards, being placed in the premier position. His flowers were remarkable for their beautiful colour, while as regards size they were of the highest order. The most noticeable in his stand were International, Mrs. C. H. Payne, M. Pankoucke, Vivian Morel, Chas. Davis, Mutual Friend, Rose Wynne, Miss Dorothy Shea, Viscountess Hambledon, Phœbus and Thos. Wilkins. Mr. H. Love, Melville Terrace, High Street, Sandown, Isle of Wight, was a good second with smaller blooms. There were five competitors in the class for twelve reflexed in not less than nine varieties, Mr. Mease gaining first position with a beautiful lot of blooms, the best of which were Christine, Cullengfordi, Dr. Sharpe, Pink Chris-tine, Crimson King and Cloth of Gold. Mr. W. Robinson gained second honours with a grand lot of flowers. The class for twenty-four large flowered Anemone blooms (Japanese included

brought out some magnificent exhibits, the first prize being won with a superb lot from Mr. J. Maulde, gardener to Mr. H. Matthews, the Mount, Haddington. The best flowers in this stand were DesCartes, M. Dupanlouen, Mme. Layton, Queen Elizabeth, M. Charles I'ebœuf, Enterprise, W. W. Astor, Miss Margaret, Nelson and Gladys Spalding, Mr. W. Robinson, and Mr. H. Prickett also showed well. In the class for twelve large Anemones, from which the Japanese two were excluded, Mr. W. Robinson secured first place, with meritorious specimens of Delaware, Fleur de Marie, Lady Margaret, Junon, Miss Annie Lowe, M. Chas. Leboeuf and Mrs. Judge Benedict. Pompons were well shown, and made an excellent display. Premier honours rested with Mr. T. C. Carter, gardener to Mr. A. G. Meissener, Weybridge, with twelve trebles in the finest possible condition. Mr. M. G. Mills, gardener to Mr. F. Hojd, Croydon, was a good second, and included in his stand were some charming pompon Anemones. A goodly number of competitors were in evidence with twelve bunches single flowers, three blooms in each bunch, and these were very fine. The first prize was won by Mr. J. Myers, gardener to the Earl of Sandwich, Hinchingbrooke, Hunts, with a very neat, even and clean lot of blooms. His varieties were Purity, Nora, Mrs. D. B. Crane, Snow Wreath, Gertrude Sedgley, Kate Williams, Ewan Cameron, Golden Star, George Rose, Jane and Mrs. W. Wilde. Mr. G. W. Forbe, gardener to Mr. D. Nicols, Surbiton was a good second. For six blooms Japanese white, one variety, Mr. J. Gossage, gardener to Mr. E. H. Watts, Devon-hurst, Chelmsford, was the good first with very clean and true flowers of Mine Carpet, Mr. B. Calvert, gardener to Col. Arthur Herbert, Bishops Stortford, being second with superb examples of Mme. Thérèse Roy, with long and broad florets and of the loveliest ivory-white. For six Japanese, any colour except white, one variety only, Mr. W. Robinson was first, with exceedingly fine specimens of Vivian Morel, the second prize being won by Mr. G. W. Forbe, with beautifully coloured blooms of Edwin Molynieux, neatly finished. In the class for six Japanese incurved, highest honours were secured by Mr. W. Robinson, with blooms that were hardly up to the standard which is now general. His best flowers were Louise, Australie, and Miss Ethel Addison. Mr. Carter came second with Prefet Robert and Louise as his best. There was a capital competition for six incurved blooms, one variety only, the best coming from Mr. R. Jones, gardener to Mr. C. A. Smith Ryland, Bedford Hill, Warwick, with six of the finest blooms we have seen of C. H. Curtis, a variety which appears to stand pre-eminent above all others this season. The second prize went to Mr. F. G. Foster, Brockhampton Nurseries, Havant, with smaller samples of the same variety neatly incurved. In the same classes Mr. A. R. Knight, Ashford, went, as first, for six Japanese distinct. The same exhibitor also secured second place for six incurved, distinct. For six blooms Japanese, one variety only, Mr. Stedwick was first with magnificent blooms of Chae. Dericie, the deepest shade of the colour peculiar to it, Mr. C. E. Wilkins, Swanley, being second with the same variety. In the single-handed gardeners classes, Mr. H. Aphorpe, 94, Hill Street, Cambridge, won the prizes for six incurved blooms distinct and six Japanese blooms distinct. Mr. C. E. Wilkins was first with flat flowers, while for twelve Japanese distinct Mr. Edwards, Cambridge, secured first position.

TABLE DECORATIONS.

For a table of bouquets, wreaths, sprays, button-holes, &c., illustrating the decorative value of the Chrysanthemum, each exhibitor having for his sole use a table, standing by itself, of fifty-four superficial feet, there were five competitors. The leading position was taken by Mr. H. O. Garford, Floral Depot, Stoke Newington, with a nice assortment of designs. A lyre in yellow flowers

was very good; the bouquets were in most cases artistically arranged, sprays and button-holes were exquisitely made up, while a design of an anchor in white, with small blossoms of Source d'Or to form the chain, was very neat and pretty. The central vase with long loops of Smilax seemed over-done and largely spoilt the appearance of the tableau. The second prize was awarded to Messrs Harwood Bros., nurserymen, Balham, who had four designs arranged on the table, yet most of them showing a proper regard for the true artistic ideal. A most beautiful harp in yellow flowers and foliage, with the best design, the wreath being too large and heavy. A large basket in the centre was lightly arranged, but we could not see to what useful purpose it could be put. By far the prettiest class was one for two vases of pompons and Anemone pompons, and this brought out a strong competition. The first prize was easily secured by Mr. Mark Webster, gardener to Mr. E. J. Preston, Keele Park, Beckenham, with a superb arrangement in one vase of the yellow form of Snowdrop and William Westlake, with grasses, scarlet Oak, and other fine foliage pleasingly associated. The second vase contained sprays of blossoms of Snowdrop, Elise, Dordan, Sœur Melanie, and another variety with appropriate foliage, the two Oriental vases matching the flowers admirably. Mr. A. Merriedew, Camberwell, was a good second with smaller vases in which the arrangement was artistic and light, but the variety in colour was too great to be really effective. For two hand bouquets or posies of Chrysanthemums, Mr. Mark Webster was again first with exquisite arrangements, showing true artistic taste both in the arranging and in the association of the colours. In these bouquets some of the prettiest single-flowered varieties were freely used with excellent effect. Mr. Arthur Pentney, gardener to Mr. A. Howard, Worcester Hall, Epsom, was second with much larger and heavier looking bouquets, but arranged lightly notwithstanding. There were only three competitors for the prize offered to ladies only for the best arranged hand-basket for a drawing-room. None of the exhibits were of a high order of merit, the first prize being won by Miss E. Pentney, Vale Cottage, Hanger Hill, Ealing, with sprays of Source d'Or and a yellow, lightly arranged with suitable foliage, Miss Sedgley, Caterham Vale, being second with rather large blooms of Vivian Morel, associated with grass and a sparse use of foliage. For a vase of six Chrysanthemums, one variety only, Mr. R. E. Wilson, 32, Margravine Gardens, West Kensington, won first with a capital arrangement, using large and full flowers of Vivian Morel, two blooms lacking colour marring the beauty of the arrangement. Mr. Edward Jones, Bedford, was second, showing the same variety, possessing good colour, but lacking the substance as seen in the first prize exhibit.

On Monday last the floral committee of this society held a meeting at the Royal Aquarium, Westminster, when Mr. T. Bovari occupied the chair. There was a good attendance of members, and the exhibits were of excellent quality, the principal ones coming from Mr. Edwin Molynieux, Mr. C. Gibson, Mr. W. Wells, Mr. E. Beckett, &c.

First-class certificates were awarded to the following:

CHRYSANthemum GOLDEN ELISE.—A small decorative Japanese variety, a sport from Elise, which was submitted under the name of Golden Ball; colour pure golden yellow. It was considered useful as a market variety. From Mr. Budget, Southampton.

CHRYsanthemum Mr. HUGH GARDINER.—This is a good-sized Japanese Anemone with long drooping and rather narrow guard florets; colour deep rose amaranth, paler off at the base of the florets to white; disc yellow, tinted mauve. Staged by Mr. S. Ely.

CHRYsanthemum MUSTAHLA.—A Japanese in curvaceous enormous dimensions. The florets are rather broad and grooved, the blottoms massive

and substantial; colour pure waxy white. Shown by Mr. C. Gibson.

CHRYsanthemum DUCHESS OF FIFE.—Another large Japanese incurred, but more globular in form than the preceding; very compact in build, medium-sized grooved florets; colour pure white. This came from Mr. Edward Jones.

CHRYsanthemum SARAH GIBSON.—A very large Japanese, the tips of the florets curly; colour golden reddish bronze with golden reverse, outside petals rosy carmine. Exhibited by Mr. E. Beckett.

CHRYsanthemum MRS. C. ORCHARD.—A Japanese incurved; solid and large, broad grooved florets, curly at the tips; colour a beautiful shade of pure white, shaded cream. From Mr. E. Beckett.

Some other really fine novelties failed to secure highest honours, the best being Mme. Paul Lacoste, a large white Japanese; Matthev Hodgson, a Japanese, colour reddish terra-cotta, a warm attractive shade, with a golden reverse; Mrs. G. W. Palmer, a sport from Mrs. C. Harmann-Payne, colour rosy bronze; Le Rhône, a large canary-yellow Japanese; Lori Justice Lopes, a Japanese of a pale salmon-blush colour, and two incurred novelties, called respectively Miss Violet Curfew and Miss Dorothy Foster, which the committee asked to see again.

Other interesting flowers were Duke of Wellington, Mrs. Airdrie (inc.), Mme. P. L. Rivoire, Lady Northcote (a large white Japanese), and William Payne, a pompon with short, stiff florets, colour golden bronze.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 10.

THESE fortnightly meetings, notwithstanding attractions of a similar kind elsewhere, continue to be full of interest. On Tuesday last the Drill Hall was fairly well stocked with representative collections of fruit, flowers, and vegetables, the groups of Chrysanthemums being of exceptional merit, as were many of the individual flowers. Orchids, in spite of very cold nights and equally cold, frosty mornings, were in considerable numbers, and of a most interesting character. The group of hybrid Orchids from Messrs. Veitch and Sons, which attracted attention, speaks volumes for their skill and enterprise, than in the dullest part of the whole year they could stage "a group of thirty-two hybrid Orchids," all in flower and all of decided merit. The group contained many Cypridiums, together with Lelio-Cattleyas, and the parentage in each case being given, added not a little to their value. Near the entrance, Mr. Jones, Lewisham, had set up a large bank of Chrysanthemums, with Palms, Crotons, and Ferns interspersed. Considering the varied hues of the predominant flower, the group would have been more effective had the rich colouring of the Crotons been somewhat modified in this case.

Mr. Percy, Syon House, Brentford (gardener Mr. C. D. Wyke), had a fine exhibit of Chrysanthemums and fine-leaved plants, some 60 feet long. The blooms, on stems 2 feet to 2½ feet long, arranged in threes or sixes, produced a fine display. In this exhibit every bloom could be seen to advantage, which is as it should be. Messrs. Dobbie and Co. filled a large table of vegetables, that ran the entire length of the hall, the produce comprising everything worthy of being grown in the kitchen garden; a fine collection. The twenty-four bunches of Grapes from Mr. C. Bayer, Tewkesbury Lodge, Forest Hill, were in about ten varieties, and represented high culture.

Orchid Committee.

First-class certificates were awarded to the following:

CATTLEYA MAXIMA ALBA.—This is a remarkable variety, the sepals and petals pure white, of good shape and substance, the lip white, much fringed

in front, with a broad line of yellow running through the centre of the throat. The flowers were, unfortunately, bruised in transit. The plant belongs to the long-bulbed type of Cattleya maxima, and was of recent introduction. From Mr. Hamar Bass, Burton-on-Trent.

LELIO CATTLEYA. *NYSA SUPERBA* is a hybrid between *Cattleya gigantea* and *Laelia crispa*. It had previously received an award certificate, but was so much impressed that it was unanimously given the higher award on this occasion. The sepals and petals are pale rose, of good form and substance, the lip deep crimson-purple, margined with rose, the side lobes rose, shading to yellow, with a suffusion at the base. It bore two flowers, which resemble to a great extent those of a superior form of *Laelio-Cattleya exoniensis*. From Messrs. J. Veitch and Sons.

Awards of merit were given to the following:—

CYPRIEDIUM FRED. HARDY.—A remarkable variety, resembling an albino of C. Charlesworthii. It was imported with that species by Mr. Moore, of Bradford. The dorsal sepal is white, with a slight shading of purple at the base, the petals rather narrow, pale green; the lip greenish yellow, veined with a darker shade. The column had the characteristic white disc as seen in C. Charlesworthii. From Mr. F. Hardy, Tyntesfield, Ashton-on-Mersey.

ODONTOGLOSSUM CRISPUM GOLDEN QUEEN.—A lovely form, the sepal pale yellow, heavily blotched with dark brown, the petals much fringed at the edges, pale yellow, thickly spotted with dark brown; lip bright yellow, with several large brown spots. The flowers were beautifully round, and the spike of upwards of twenty flowers left nothing to be desired in the matter of culture. From Mr. W. Thompson, Staffs.

Messrs. J. Veitch and Sons received a silver Flora medal for a group consisting exclusively of hybrid Orchids arranged with good effect. Prominent amongst these were *Cattleya Fabiola*, a secondary hybrid between C. *Harrisi* and C. *Bowringiana*; the sepals and petals rose, lip rose, with a mass of purple in front, the side lobes rose, shading to white at the base; several forms of *Cattleya Mantii*, *Laelio-Cattleya Deodora* (*Dodecane* x *Perrini*), pale rose sepals and petals; lip crimson-purple in front, the centre lighter in colour, veined with white through the throat. L.-C. *Statteriana*, L. C. *Pallas*, L. C. *Lady Rothschild* (*Perrini* x *gigas*) pale rose sepals and petals, the front lobe of the lip bright rose purple, shading to white in front of the throat, the side lobes rose, veined with purple. *Masdevallia* *Asmodia* (*Reichenbachiana* x *Chelonei*), M. *Ajax*, recently certified, *Cypripedium Arthuriandum*, with eight flowers; C. *Nobile* (*Spicerianum* x *Fairrisianum*), C. *Mimosa*, and various forms of the *Selenipedium* section were also included. Messrs. F. Sander and Co. were awarded a silver Banksian medal for a neat group consisting of good forms of *Cattleya labiata*, several remarkably well-flowered plants of *Laelia pumila*, *Trichopilia brevis*, the sepals and petals yellow, barred with brown, lip white, with a suffusion in the centre, shading to deep orange at the base, and *Calanthe alba*, a cross between *Calanthe veratrifolia* and C. *Cooksonii*, flowers pure white, with a tracing of yellow at the base. Several plants of the lovely *Dendrobium Johnsoniae*, sepals and petals white, lip white, lined with purple on the side lobes. *Cypripedium Albidum*, *Cymbidium elegans*, and numerous well-flowered bark forms of *Sophronitis grandiflora* were also shown. Messrs. Hugh Low and Co., Clapton, sent a small group, consisting principally of *Cattleya labiata*. *Cattleya labiata grandis* was a remarkable form, with large bold sepals and petals, good in colour, the lip also extra large and of good shape. Several well-grown plants of *Odontoglossum Roeslii*, and its var. *album* and *Cattleya Johnsoniae* were also noticeable. Mr. R. Gulzo, Bexley Heath, sent a small group in which were a plant of *Vanda Sanderaiana*, with nine flowers on the spike, *Cattleya labiata*, and numerous forms of *Dendrobium Phalaenopsis Schröderianum*, the variety *Miss Lawford* being distinct, the sepal

and petals white, the latter tipped with pink, the lip white lined with purple. Mr. W. Thompson, Stone, Stafford, was awarded a silver Banksian medal for a group consisting principally of cut spikes of superb forms of *Odontoglossum crispum*, O. *Pescatorei*, O. *Andersonianum*, one of which was remarkably dark in the spotting, a fine branched spike of O. *gloriosum*, several dark forms of O. *grande*, and fine forms of *Cattleya labiata*.

Baron Schröder sent a cut spike of *Cymbidium Threacyanum* carrying eighteen blooms; the flowers each about 6 inches across; the sepals and petals greenish-yellow lined with purple-brown, the lip creamy white, spotted with purple. *Cattleya labiata* *Countess Fitzwilliam*, the sepals and petals pure white, lip white with a tinge of purple on the front lobe, came from the same exhibitor. Mr. G. W. Low-Schofield, Newhall, Rawtenstall, sent a remarkably well-grown plant of *Pleione maculata alba* with upwards of thirty flowers. Mr. H. H. Bolton sent *Cattleya labiata Janea*, a fine form, the flowers of good colour and the segments well balanced. Mr. C. J. Ingram sent three hybrid forms of *Laelio-Cattleya*. L.-C. *Homéne* is the result of crossing L. *Perrini* and C. *Percivaliana*; sepals and petals bright rose, lip rose-purple in front, suffused with yellow at the base; the side lobes rose, shading to orange-yellow at the base. L.-C. *Meteore*, the result of crossing L. *Dayana* and C. *Bowringiana*, has deep rose sepals and petals, lip crimson-purple lined as in L. *Dayana* through the throat. L.-C. *Minerva* (*Perrini* x *Lawrenceanum*) has long but narrow deep rose sepals and petals, lip purple in front, lobes yellowish; shading to white and having a slight yellow tint towards the centre; the base of the throat lined with purple and white.

Mr. F. Hardy sent a fine form of *Cattleya Hardiana* with two flowers, the lip remarkably broad, deep crimson-purple with the usual yellow lines at the base. The yellow eyes on each side of the throat are brighter in colour than usually seen in varieties of C. *Hardiana*. Mr. H. Shaw sent *Cypripedium Hobsonii*, said to be a cross between C. *Lawrenceanum* and C. *philippinense*, but no trace could be discerned of the latter parent. Mr. H. S. Leon sent *Cattleya labiata venosa*, a variety with splashed sepals and petals, and a plant of *Laelia pumila* with eleven flowers. Mrs. H. Kitson, Elmest Hall, Leeds, sent flowers of *Cattleya Bowringiana lilacina* and a fine cut spike with sixteen flowers of *Odontoglossum Uro-Skinneri*. Frau Idi Brandt, Zurich, Switzerland, sent a dark form of *Odontoglossum Kramerii* and a fine form of O. *cristatum*. Col. Wilson sent a hybrid *Cypripedium* said to be a cross between C. *bellatula* and C. *callosum*, but it was very different from C. *Wottonii* previously exhibited from this cross. Col. Wilson's a hybrid being more in the way of C. *Muriel Hollington*, and indicating that C. *niveum* had been used in its production. Mr. G. W. Low-Schofield also sent a collection of paintings of Orchid flowers.

Floral Committees.

Awards of merit were given to the following:—

CHEYSANTHEMUM. Mr. C. ORCHARD (Japanese incurved).—This, of the Japanese incurved type, has large flowers, the florets of good substance and the blooms of high finish. The colour is sulphur and cream. From Mr. H. J. Jones.

CHEYSANTHEMUM. Mr. P. A. PARSONS, also a Japanese incurved, has pure white flowers, with massive, incurving florets. The flower is very solid and of medium size. Mr. Jones.

CHEYSANTHEMUM DUKE OF WELLINGTON (Japanese incurved).—A grand exhibition variety of massive proportions, the bronze and gold-shaded blooms being very effective. From Mr. Owen, Maidenhead.

CHEYSANTHEMUM MIGNONETTE.—This is one of those having somewhat globular heads of thread-like florets, and now merged into plumed varieties. It is a curious head of bloom and yellow in colour. From Mr. Owen.

CHEYSANTHEMUM MME. PAUL LACROIX.—This is a Japanese of the largest size, in colour ivory-

white, with lemon centre, the florets long and drooping in character. From Mr. P. O. Knowles, Friars Park, Henley-on-Thames.

CHEYSANTHEMUM MR. H. H. GARDINER.—This is an Anemone-centred variety, the outer florets of a rose-purple-amaranth hue, the central tuft of the same shade and heavily mingled with gold. From Mr. H. H. Gardiner, Henley-on-Thames (gardener, Mr. S. Ely).

A botanical certificate was awarded to *Amorphophallus* *phellomanicus*, a tall and striking arroid. The plant is dwarf and about 1 foot high, the spathe nearly 1 foot across, pale green and bronze. Internally the arrangement is equally remarkable, while the balloon-like puff at the summit of the spadix is very singular. The plant came from the Messrs. Veitch, of Chelsea, and attracted much attention.

A very pretty and tasteful group—including some very fine examples both of the Japanese and incurved varieties—came from Earl Percy, Syon House. John Lightfoot, Beauty of Exmouth, Col. W. B. Smith, Miss Rose, Golden Baverley, Hairy Wonder, Mrs. W. Dreer, Mrs. C. Harman-Payne, Amos Perry and Robert Owen were the best varieties. The effect of this group was greatly improved by the use of light Palms and Ferns (silver Flora medal). The best group of Chrysanthemums came from Mr. H. J. Jones, Ryecroft Nurseries, Lewisham. The arrangement was artistic and informal, and the blending of the colours was carried out with excellent taste, while *Convolvulus*, *Dracunculus*, &c., were used with splendid effect. The quality of the flowers was very high and no fault could be found with their condition (silver gilt Flora medal). A group of *Lycoris aurea* came from Messrs. de Rothschild, Gunnersbury Park (gardener, Mr. Reynolds). This is a remarkably pretty flower, particularly charming in colour (silver Flora).

Some admirable cut blooms of Chrysanthemums came from Mr. Godfrey, Exmouth, Devon. *Modesto*, brilliant golden-yellow; *Pride of Maidenhed*, creamy white; *Melina Duchesse*; *Ma Perfection*, a pleasing purple; *Australian Gold*; and Mrs. J. A. Lewis, a lovely white, were very good. A similar lot of cut blooms came from Mr. Robert Owen, Maidenhead. *Mignonette*, a small yellow with extremely fine florets; *Picturatum*, a red and yellow striped variety; and *Mme. Philippe Riviere* were pleasing. A collection of magnificently blooming cut Chrysanthemums was shown by Mr. Chas. E. Shea, Vivian Morel, Maggie Shee, C. Davis, Hairy Wonder, W. H. Lincoln, Miss Dorothea Shee, Thomas Wilkins, and M. Pankoucke, being particularly fine (silver Flora medal). A small collection of cut blooms of Chrysanthemums and *Gloxinias* came from Messrs. Young and Dobinson, Stevenage, Herts (bronze medal). A very delightful group was that of Mr. T. S. Ward, of Gloucester, who showed small single and semi-double varieties of Chrysanthemums, all very useful as cut flowers. *White Jane*, Mary Anderson, and Miss Rose, were shown among many other charming kinds. The arrangement was good, but slightly stiff (silver Banksian).

Fruit Committee.

There was not a large number of exhibits before this committee, showing that it rarely rewards fruit-some of our larger fruit growers have not the quantity they usually do, as we note the absence of their collections at these meetings. Grapes were a leading feature and of excellent quality. Vegetables were also staged in quantity, but lacked quality and freshness—the latter so desirable. For the Veitch prize for flavour there was a spirited competition, but nothing new was brought to light.

Mr. William Taylor, gardener to Mr. C. B. Bayley, Forest Hill, S.E., staged a splendid collection of Grapes, probably the same as was so successful last week at the National Chrysanthemum Society's exhibition. The varieties were *Muscot of Alexandria*, excellent in bunch, colour, and shape. We have seen larger berries, but the finish was good. Mrs. Pearson and Mrs. Prince were well coloured. Black Hamburg, Gros Col-

man, gros Marce Gros Guillaume, Black Alicante, Lady Downe's, Alnwick Seedling, Foster's Seedling, and Trebbiano were also very good. It was a notable exhibit, all having been grown in one house, and well merited the silver Banksia medal awarded. A very large collection of vegetables was shown by the Messrs. Doherty, Rothersey, N.B. Doubtless many of these vegetables had done duty at the Aquarium last week. Leeks were staged in quantity, the best being Dobbie's Champion. Onions, both Globe and flat-shaped, were good, but these do not so soon show the effects of long exposure. Carrots, Parsnips, Beet, Celery in two varieties, Victoria, Kale, Cabbage and Turnip, Red Globe and Golden. Both Turnips were also shown. This exhibit required one whole table from end to end of the hall (silver Banksia medal). A new Globe was shown by Mr. Wright, gardener to Mr. E. Lord, Belmont, Rawtenstall. The bunch was somewhat like that of Madresfield Court in shape, berries large, but not well coloured. The committee thought well of it, and advised that it be given more heat and shown again. The Messrs. Brown, Stamford, sent seedling Apples, Toogood's Seedling and Lavender, but they failed to come up to the standard required.

The Messrs. Veitch's prizes for flavour brought out some fifteen dishes, Mr. Herrin, Dropmore Gardens, being first in the Pear class with nice examples of Beurré d'Anjou, Mr. R. Maher being second with Knight's Monarch. For Apples, Mr. W. H. Gardner, Nutfield Court, Surrey, was first with Cox's Orange, and Mr. Woodward, Barnham Court, Maidstone, second with Ribston Pippin.

The lectures on "Seed Growing" were given by Messrs. Fife and Long. The former in his opening remarks dwelt upon the value of vegetables as a safeguard to health, noting the necessity of good strains of seed. He stated that immense tracts of land all over the country were now devoted to seed growing, and there was a good demand for high-class seeds. To get the best results, much attention, care in selection of stock and saving the seed were needed. In many cases it was impossible to get true strains, hence the necessity of raising new kinds or distinct types. The attention required to seed saving to get even results on any decided improvement was very great. The Pansy was most difficult to obtain from seed, and the same drawback happened with the Dahlia. He illustrated the fertilisation of Red Globe, White and Purple-top Turnips and the varied results. The crossing of Onions required great care to get perfect shape and good quality bulbs. He pointed out the importance of growing good varieties of flowers; whereas common or worthless kinds required equal care and gave poor returns. In saving seed, he noted the importance of getting the seed from different parts of the plants according to variety, this applying to both flowers and vegetables.

Mr. Long devoted his remarks to the agricultural side of the question, the choice of soils and their preparation for seeds, the value of drainage, and the great care in selection of roots for stock plants. Climate and temperatures caused great variation in seeds, and persistent removal of all rogues was needless before the plants flowered. Cheap seeds were often the most costly in the end, the produce being less and of inferior quality. Other matters relating to seed-growing, such as the variation of colours, often caused by bees or insect agency, and the evil effects of various pests and diseases, were also explained.

The chairman proposed a hearty vote of thanks to Messrs. Fife and Long for their interesting remarks, and made a few remarks as to the evil effects of insects in mixing of colour and growth in various flowers which he named.

A cold November.—At Chester, the temperature on the ground in the open air fell to 20° 7 Fahr. This is the severest frost ever ex-

perienced in Cheshire during the first week in November. The nearest approach to it was in 1848, when, on the 5th of November, the temperature was 25° 9.

The weather in West Herts.—The past week has again proved cold, making this the fifth unseasonably cold week we have now had in succession. During the nights preceding the 6th and 7th the thermometer exposed on the lawn registered 13° of frost. Both at 1 foot and 2 feet deep the ground is now 4° below the November average. Since the present month began only about half an inch of rain has fallen, nearly the whole of which was deposited on the 7th inst. The winds have been light and the air very dry for the time of year in the middle of the day. The weather has been a good record of clear weather indeed, the 5th and 6th being with brighter days than any I have yet recorded here in November, the sun shining brightly for respectively 8 and 7½ hours.—E. M., Berkhamsted.

BOOKS.

NATIONAL CHRYSANTHEMUM SOCIETY'S CATALOGUE.

We have just received a copy of the jubilee edition of the N.C.S. official catalogue. In many respects it does not differ materially from previous issues, being based upon the same model and printed and got up in a similar style. The main divisions of selected lists for exhibition and A B C general list at the end of the work are retained, but, of course, the contents have been entirely overhauled and revised up to date.

The first contribution of importance to notice in the new catalogue is a bibliography of the Chrysanthemum by Mr. Harman-Payne, who has compiled a somewhat exhaustive list of all the books, &c., new and old, that have been published on the popular flower. The list is not confined to English productions, but includes works from American, Australian, Belgian, Jersey, Dutch, French, German, Japan, New Zealand, and Portuguese authors, and from a literary point of view is of considerable value.

There has been a slight rearrangement of the sectional headings in the selected lists, the Japanese reflexed being done away with altogether, a selection of early varieties being added. These select lists for exhibition now consist of varieties chosen by a specially appointed committee of thirty growers, and are arranged in eleven groups as follows: Incurred, Japanese, Japanese incurved, hairy, reflexed, large Anemones, Japanese Anemone, pompons, pompon Anemones, singles in two divisions, viz., large and small flowered and earlies, also sub-divided into Japanese and pompons. The method of description is the same as in former issues, raiser's names and dates being freely supplied, and also a note of certificates in cases where they have been granted.

A new departure, and we should imagine a commendable one, has been decided upon in the general alphabetical list. The varieties there mentioned are chiefly a selection of the novelties of the past six years, and in arranging these the committee have adopted the plan of placing the surname first instead of, as hitherto, the title or prefix. The principle is explained in the preface as the directory method, and the following quotation will best explain:—

Instead of looking for a variety under the initial letter of its name, as is done in the alphabetical list, make it the first letter of the surname, and when the name is not a personal one, it should be sought under the principal name if a compound name. For example, Souvenir de petite Amie will no longer be under the letter S, but under A, and Pride of Maidenhead or Pearl of Maidenhead, both under M.

There can be little doubt as to the utility of this, as we have large numbers of Chrysanthemums named after many persons in one family, and only distinguishable by a prefix title, or

perhaps arbitrary initial letter of a Christian name. The changes seem to be most pronounced, as might be expected, among the Japanese. A very large proportion of these are of French origin, and principally from M. Ernest Calvat, whose selections are to be especially appreciated by English exhibitors just now. Other classes however, both English and American, are well represented, and altogether the selections appear to be fairly representative. Unfortunately, however, it matters little what care is bestowed upon such a work, for the multitude of new importations and the yearly additions of sterling merit soon place a catalogue, however good, far behind the times. It is therefore expedient that frequent revision be bestowed upon such works, the more so, perhaps, as its circulation is far wider now-a-days than it was when the idea of issuing an official catalogue was first entertained by the society.

The price is one shilling, and copies can be obtained of Mr. R. Dean, Kanelagh Road, Ealing, the secretary, and of the publisher, Mr. E. W. Allen, 4, Ave Maria Lane, E.C.

PUBLIC GARDENS.

Open spaces.—At the monthly meeting of the Metropolitan Public Gardens Association, held at 83, Lancaster Gate, the Earl of Meath, chairman, presiding, a letter was read from a member suggesting that the most suitable national memorial for commemorating the length of her Majesty's reign next year would be the starting of a national voluntary subscription list for the provision of public gardens and playgrounds in London and the provinces, all bearing the Queen's name, and a sub-committee was appointed to formulate a scheme. It was reported that the laying out of St. James's, Pentonville, now only awaited the signatures of the trustees to the deed of transfer, and that the application for the grant for the laying out of Finsbury Green Churchyard would be heard on the 13th instant. Subscriptions were opened at £550, and it was agreed that the association should itself subscribe £500, being one-half of a donation expected next year. Satisfactory progress was reported with regard to the acquisition of the East Street, Walworth, site, and the disused burial ground in Nelson Street, S.E., which the association hopes to commence laying out very shortly, the purchase money having now been completed by a grant for each site from the London County Council. It was decided to oppose the opening of a new cemetery at Golders' Green, close to Hampstead Heath, to lay out St. Stephen's Churchyard, North Bow, if its maintenance was secured, to offer seats for sites in St. James's Park, and in other places. Amongst many matters engaging attention were vacant sites in City Road, E.C., Nunhead, S.E., Lambeth, Ragged Schools, Giswell Road, Marlborough Square, Chelsea, Fortune Green, N.W., Rush Common, Brixton, and a river side space at Putney.

BOOK RECEIVED.
"An Introduction to Structural Botany," Part 2: Flowerless Plants. By Dukinfield Henry Scott, M.A., F.L.S., F.G.S. London: Adam and Charles Black.

Names of plants.—H. W. Martin.—Maxillaria sp.—"Woodlands, Blandan—*Passiflora rubra* (L.). Kindly send a plant or cuttings to Kew."

Names of fruit.—J. Elliott.—1. *Fittonia* Duchesnei; 2, Marie Louise; 3, Brown Beurré; 4, not recognised; 5, Beurré Biel.—J. S. Keit.—Apples: 1, Warner's King; 2, Bymer; 3, Pears: 3, Brown Beurré; 4, B. Clisgran; 5, not recognised.—T. Procter.—King of the Pippins.

Fifth Edition, new ready, beautifully illustrated, Medium Svo, price 15s. The English Flower Garden: Designs, Views, and Plans, with Descriptions and Illustrations of the Best Plants, their Culture and Arrangement. London: John Murray, and of all Booksellers.

No. 1305. SATURDAY, November 21, 1896. Vol. L

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ORCHARD AND FRUIT GARDEN.

APPLE, GOLDEN WINTER PEARMAIN.

I AM glad to see a note from "W. B." containing a favourable mention of this well-known and largely-grown Apple. In the course of his remarks he alludes to this variety being equally as good as King of the Pippins. Now this opens up a very interesting question concerning the identity of these two supposed varieties, as King of the Pippins and Golden Winter Pearmain are considered by some to be identical. Permit me to ask "W. B." if he considers them to be so, or whether, in speaking of the King of the Pippins, he alludes to Seek no Further, which is supposed by some, though erroneously, to be the same thing, and as often as not passes under that name! There are many people who adhere to the opinion that all three are distinct, and when conversing with a noted fruit grower the other day on this subject, he told me that he considered them to be so, and that he thought Golden Winter Pearmain to be the least valuable of the three.

I think at the Apple congress held at Chiswick in 1883 the conclusion was arrived at that all three kinds were one and the same variety, and anyone exhibiting them separately in a collection of fruit since then would be almost certain to be disqualifed. Nevertheless, I am of the opinion that Seek no Further is a distinct variety, and I well remember when the decision just quoted became generally known, the late Dr. Bull asked me for my opinion. I replied that so far as Seek no Further was concerned, it would always be considered a distinct variety in this locality, but with regard to the other two they closely resembled each other, that I should not like to hazard the opinion that they were two separate varieties, and it is this matter that I should like to see cleared up. Since the Apple congress, I have discontinued labelling Golden Winter Pearmain as such, but possibly I may not have the true kind. That Seek no Further is distinct anyone may see at a glance on comparing them together, and they are also different, both in regard to colour and keeping qualities. Hundreds, and I dare say I should not be far wrong if I said thousands, of trees of both King of the Pippins and Seek no Further are grown in the county of Hereford alone. The latter preponderates in the neighbourhood of Stoke Edith, and it is said to have been raised in these gardens many years ago and distributed soon afterwards, grafts being given away to all who applied for them. The original tree has only been cut down within the last ten years on account of its ceasing to be profitable. This was a standard, and it was wont to bear exceedingly fine fruits, which were always highly coloured. I have another tree in a grass paddock which was grafted from scions taken from the old tree, and from this I usually gather my finest fruits. I could also mention many others, especially some fine old veterans in the orchards belonging to the home farm, and there are also great numbers of trees in cottage orchards hereabouts.

As before mentioned, Stoke Edith claims the credit of having produced this Apple, and according to information gathered several years ago from a garden labourer, who had spent sixty years of his life there, Seek no Further

was raised by a gardener there. Another Apple named Stoke Edith Pippin was raised at the same time. He also told me the following tradition about the naming of the Apple: It appears that Mr. Edward Thomas Foley, the then proprietor of Stoke Edith, was showing a friend round the gardens one day, and when they came to the tree of this particular kind of Apple he began eulogising its merits, and remarked that a better Apple could not be found. His friend upon hearing this at once said seek no further. Mr. Foley replied, "Well done, and that shall be its name, as it has not got one yet," and as such it has continued to be known in this neighbourhood ever since. There is another Apple called Worcester Seek no Further, of which I have one tree, but the fruit is inferior in every respect to that of the preceding.

Now the chief distinction between King of the Pippins and Seek no Further is in the shape and colour of the fruit of the latter, and also by its keeping in good condition for a longer period than the former. King of the Pippins keeps till Christmas or a little later; after this it rapidly deteriorates in flavour and the flesh becomes mealy. Seek no Further I frequently have in good condition until the end of February. The shape of the latter is conical, sometimes slightly pucker'd round the eye, sometimes regularly formed. The eye is closed and seated in a rather deep basin; stalk barely half an inch long and inserted in a rather deep cavity. The colour of the skin is a russety yellow, covered more or less with crimson according to the position of the fruits on the tree. When fully exposed the fruits then take on an intense crimson colour, and are then most handsome. The flesh is white, tinged with yellow; it is firm, crisp and juicy, and the flavour is good. On the other hand, King of the Pippins is not so conical in shape, or is more abruptly shaped and broader at the apex, while the eye is open and the stalk cavity is not so deep. The skin is smooth, golden yellow in colour and flushed with crimson next the sun, and of handsome appearance; flesh yellowish white and pleasantly flavoured.

From a commercial point of view the two are about equal, as the one sells as well as the other. Last week the price realised for good samples was, I believe, 10s. per cwt., and I have known as much as 20s. per cwt. paid in seasons when Apples have been scarce. With regard to cropping qualities, the one variety is as good as the other. Both are abundant and regular bearers, and succeed admirably grown either in pyramidal or bush form, or as orchard standards, and they are excellent market kinds. I am afraid I have allowed this note to run to too great a length, but it is an interesting subject, and I should be glad if "W. B." will kindly send a few lines in answer to my query.

Stoke Edith.

Pear Prince of Wales.—A fine, hardy, vigorous-growing variety and a free cropper. The fruit is very distinct in appearance, being of a handsome dark brown colour, sprinkled or dotted over with small grey dots. It is a seedling from Marie Louise, but is rather different in shape and not so tapering at the stalk as the parent. The fruits also attain a large size, and a single specimen will sometimes weigh as much as three-quarters of a pound. It has a good deal of the Marie Louise flavour in it, and is quite melting when fully ripe. As a pyramid it is quite a success.—A. W.

Pear Zephirin Gregoire.—This is a rather small, but symmetrical-shaped Pear of Belgian origin. Its proper season is the end of December and beginning of January. This season I fear it

will ripen earlier than usual, as the fruits are already assuming a yellowish tint. With me this variety does not succeed so well on the Quince as on the Pear stock. On the former growth is very unsatisfactory. On the Pear stock a pyramid bears regularly; the fruits are clean and well grown and the tree makes healthy growth. As stated before, the fruits are small, but deficiency in size is more than compensated for in the delicious flavour. The flesh is yellowish, buttery and juicy. It is a good companion to that excellent Pear Winter Nelis, where the latter is found to succeed, and one or two trees should be grown if room can be found for them.—W.

Pear Doyenne Boisselot.—I recently saw a magnificent lot of this, so far as I am aware, little-known Pear at Hillsdale, Newark. In shape it favours the Bergamot section, but is far heavier, some of the fruit weighing a pound. It is fit for use about Christmas, and Mr. Day, the gardener, informed me that the flavour was very good. They had been grown on a horizontal cordon, in which form the tree is both an early and heavy bearer. I have searched some of the leading trade growers' lists, but can find no mention of it. Mr. Newton, the owner of Hillsdale, is very enthusiastic in Pear culture, having a large and varied collection, many of which he has obtained from friends in France before they had been introduced by English nurseries. I have shown also at Hillsdale some good fruit of that old and now almost discarded variety Suffolk Thorn. This, although having been produced from a stiff clay soil, was of most refreshing flavour, the individual fruit being about the size of Winter Nelis.—J. C.

PORTABLE ROOFS FOR FRUIT HOUSES.

I AM pleased to see this subject treated upon (p. 353) by Mr. Parker, as it could be adopted with great advantage in many gardens and at small cost. To be effective the roofs must be as stated, light, cheap and neat. In common with many fruit growers, I think the ripening of wood does not get sufficient attention, and with more glass and less woodwork, as the modern house is now constructed, there is a danger of too rapid ripening, as growth is brought to a close before the sap has done its work, the result being stunted trees, in a short time needing removal. Mr. Parker's advice as to removal of lights for early forced Vines and Peaches is valuable. Herewith I consider lie the chief merits of movable roofs, as the trees, given free exposure, say from August, are in much better condition than one need not have the hard forced trees subjected to, as can remove all my sashes, but the houses being iron, very old and much warped by exposure to extremes of weather, this is often difficult. I would certainly not advise iron or metal houses. I see no reason why wood could not be made of equal service. I am aware that to construct houses with movable sashes will add to cost, but the advantage is so great that the question of cost in many gardens would be but small compared with the advantages secured. I never see this question mooted without calling to mind some of the hardest work I ever did in my young days, owing to a large number of cases being erected to cover the trees along three sides of a large garden. These had but scanty ventilation, and the water supply being bad and labour short, it was impossible to keep the trees healthy. If we could have utilised the autumn and winter rains by the removal of the sashes there would have been a great saving of labour and much better crops. I have noticed of late years that, with a view to cheapness, less attention is paid to the roof construction, more nails being employed and fewer sashes. This may do very well in Cucumber houses or stoves, but it is not to the fruit grower's advantage. Where portable roofs are constructed, it is necessary to do the work well, as there are more chances of drip, and in hard forcing it is necessary to have the roof as sound as possible.—W. I. M.

— I think all gardeners will agree with Mr. Parker's sound and practical remarks on the

above subject. The roofs of all the Peach houses under my charge are fixtures, which I regret equally as much as the grower Mr. Parker refers to. The gardener under whom I received my earliest training excelled in Peach growing both under glass and on open walls—in fact, fine fruit either of Peaches and Nectarines I have never seen. The houses were all old-fashioned, containing a deal of wood in the roof, the panes of glass being numerous and small. In such structures the trees would have been subject to far less heat after the fruit had been gathered than in the modern Peach houses, with panes of glass, say, 18 inches by 12 inches, these being supported by the thinnest rafters and bars possible. Yet this old gardener always removed the lights from the earliest and second early Peach houses immediately the fruit was gathered, and it did one good to look at the splendid wood of a deep bronze colour and large, prominent fruit buds when the trees were pruned in October. The first house was started in November for producing ripe fruit at the end of May and during June, one of the trees being a Noblesse. This variety about which we hear so much grumbling now-a-days, owing, it is said, to its shyness in setting, always did well enough, the removal of the roof lights doubtless just suiting it, and preparing the trees for the trying ordeal of early forcing. Occasionally a very wet summer would occur, in which case the lights were put on somewhat earlier, an excess of moisture not being deemed beneficial any more than excessive heat. There can, I think, be little wonder at the early American Peaches, such as Alexander and Waterloo, casting their buds as soon as the house is started, when we consider that the fruit is often ripe at the beginning of May, and the trees have then to endure for a period of some four months, perhaps, a temperature which in ill-ventilated houses amounts to little less than that of a Pine stove, with, as Mr. Parker says, a nasty draught into the bargain. In some cases, even in dry summers is none too plentiful, and the roots—owing to the rapid evaporation from Peach houses under glass, especially where liberal mulches are not carried out—suffer from drought, under which conditions even such hardy sorts as Stirling Castle and Early York drop their buds wholesale. Not only (as Mr. Parker points out) is the unroofing of Peach houses of inestimable benefit to the trees themselves, but labour is thereby reduced to a minimum, for few gardeners care to see red spider making inroads on the foliage; to prevent which under fixed roofs regular and rigorous applications of water, and often insecticides, are imperative. The same gardener used to serve his early viney, from which fruit was expected in May, in the same way as his Peach houses, the lights being removed in July and replaced at the beginning of October, the vines being then pruned. Better or more regular crops of early Hamburgs I never saw, no failure having to be recorded in the long period of twenty-six years. There was one Muscat of Alexandria in the house which seemed to appreciate the treatment just as well as the Hamburgs. Such fine Peaches and Nectarines would not be grown on pot trees if these were continually kept under glass. We sometimes see ornamental houses in which only Peaches but Pears, Apples, Plums and Cherries are to be grown, furnished with fixed roof lights. This is a great mistake, and accounts, in part at least, for the many failures which occur. When on the subject of fruit-house roofs I may say that I am not in favour of such large panes of glass and an almost entire absence of wood in the roofs of Peach houses, as, even in ordinary summers, the temperature quickly rises to a great height, necessitating both early and extreme ventilation—conditions anything but favourable to the well-being either of the trees or the crop.—J. CRAWFORD.

— I quite agree with Mr. Parker says as to the value of portable roof lights for fruit houses after the crops have been gathered. For many years past I have never ceased, whenever opportunity offered, to recommend movable roof

lights, particularly for early Peach houses. I consider it the most rational method to adopt for the benefit of the trees, for it is at this period and onwards when mischief so often happens, supposing all goes well through all the various stages of growth to the ripening of the fruit. After this comes a trying time for the trees in early Peach culture under fixed roofs; those trees are generally cleared of their fruit by the middle of June, when our days are the longest and often hottest. Compare the treatment those trees then get to those grown under more natural climatic conditions outside. Do we not then find cool and dewy nights, with the wood gradually ripening, with short, roundish buds at the base of moist leaf stalks gradually growing plumper until the leaves cease to be of any more service. Under fixed roofs this state of things is often quite the reverse. As a rule, we see, as a necessity, bottom and top ventilators open to their fullest extent, sometimes with a hot blast of dry air rushing through the house, extracting moisture from the foliage and all green parts of the trees, sometimes aggravated by a dry border. Under such unnatural conditions the trees are unduly excited and distressed, instead of gradually ripening. What is the result? in many cases elongation of buds with dead germs, and when the trees are started the buds fall off in showers. With movable lights the trees will be under more favourable surroundings, the night dews and occasional showers, cleansing the foliage and invigorating the trees. When the time comes for the trees to be started, they quickly respond to a slight increase of temperature. Much might be said on the above subject, and I hope those growers who are fortunate enough in having portable roofs will record their experiences of the behaviour of their trees during the last few seasons.—J. EASTER, *The Gardens, Nostell Priory.*

WINTERING POT STRAWBERRIES.

A FEW years ago there were several interesting notes in THE GARDEN from well-known growers as to the best means of protection, and in severe seasons the advice given to winter under glass was excellent, as when this is followed the cultivator is able to get at the plants no matter how severe the weather, and keep up a succession. In severe weather one is apt to forget the season is advancing, and if the plants in the open cannot be got at there is a break in the supply. Much depends upon the wintering of the plants in relation to successful forcing, and for my part I would prefer a hard winter to one like last year, when the plants did not cease growing, with the result that they forced badly, some kinds being much worse than others. I place much importance upon ripening and what may be termed resting during the winter. I am aware frost when very severe plays sad havoc with the plants in the breaking of pots, if not plunged or the root protected. I am not advising that no care should be taken, but I find plants left to shift have in many cases done much better than those coddled, if the term can be applied. A few years ago I stacked a large number in the open, and rarely had a poor crop, the only drawback being that in severe weather it was impossible to get at the plants. To prevent loss of time, which I experienced in 1895, last season some thousands of plants were placed in fruit houses, and, I regret to say, earlier than I used to stack in the open, and the autumn being specially fine and warm, growth was very late and quite active when the plants were housed, with the result that the plants forced very badly. They had no rest, and though the houses were kept cool, it was impossible to prevent the plants making early growth and pushing out a mass of flower-spikes, few of which set. This I attri-

bute to what may be termed coddling the plants. Had I have known what a mild winter was before us I would not have housed the plants. My advice is to winter the plants in the open, failing cold frames, with the pots plunged in ashes. One need not fear rain or moisture if there is good drainage at the base. Though I do not advise stacking for the reasons named, I shall this season revert to the old plan of plunging well over the rim in fine coal ashes on a hard ash bottom, as in such the plants are sooner thawed when frozen, and as long as the ashes cover the pots the roots are not injured. Plants plunged suffer less than in stacks, as the east winds we often get in severe weather shrivel up the foliage. I think free exposure a strong point with Strawberries, and would much rather leave them unprotected than place them in a warm or dry house.

S. H. M.

Flavour in fruit.—A somewhat successful competitor with both Apples and Pears for the Veitch prizes at the Drift Hall regards fruits of fair medium size, grown on bush and pyramid trees, as giving better flavour than do larger fruits of the same varieties grown on walls or elsewhere. So far as Apples are concerned, the hope of having finer flavour from wall fruit is perhaps limited to Calville Blanche, which rarely develops its true character under other conditions. Even then, whilst very soft, sweet and pleasant eating, it is doubtful whether at its best it is not in the matter of flavour rather over-rated. Our highest-flavoured Apples—Cox's Orange Pippin, Rubicon Pippin, Margil, Cockle Pippin, Mother Apple, Cornish Aromatic, and the Russells—inevitably give the richest or keenest flavour when the fruits are of medium size, not too rapidly swollen and not necessarily highly-coloured. A gravelly base, though not always the best for ordinary gardening, seems to be most suitable for fruits where flavour is held to be of more importance than size or appearance. For Pears there are no positions like walls to produce fine fruit. But most of the best Pears do well when grown as bush or pyramid trees worked on the Quince, and if the fruits they produce are not so large as wall trees will carry, at least it does seem that they give the richest flavour.—A. D.

Peach Amsden June.—I notice (p. 305) that Mr. Iggleston, in answer to "J. F. R."s" request to know which are the three best Peaches for market, recommends the above variety, and in doing so, bears out all which Mr. Wythes has previously said in its favour. After such testimony, I have no doubt others will be induced to give it a trial where early Peaches are in demand. Personally, I have always looked upon this variety as too robust, as others so much finer though so closely allied in flavour. I once own I have not grown it under glass, and my experience is confined to trees growing on a south wall, in which position ripe fruit has been gathered the last three seasons during the third week in June. At first I was tempted to grub it out, as the fruit was so small, and ripening, as it does, when extra Peaches are generally plentiful in second-early houses, fruit of Amsden June type must stand at a discount. I retained the trees, however, and now find the fruit comes in most useful, as at that season Peaches are in great demand for kitchen use, and as Amsden June answers such a purpose admirably, the finer indoor fruit can be used to better advantage. When grown under glass the fruit will probably come larger, but up to the present I have failed, under the most favourable circumstance, to obtain more than third-rate fruit as regards size. I can vouch for it being a sure cropper, but for market I should say it would not command a high price when grown outside. Although Mr. Iggleston, in the first place, recommends early varieties for market, he wisely adds further on the value of late ones for the same purpose, and I am not sure that the latter would not prove more remunerative, when it is taken into consideration the expense

and trouble entailed in producing the former, with certainly greater risks of having light crops.—R. PARKER, *Goolwood*.

Notes from Wigganthon, Yo'ks.—There was every appearance of there being a heavy crop of fruit this year, as far as the show of bloom was concerned. I do not remember a spring when the trees, especially Apples and Plums, were so full. The very dry weather we experienced during May prevented the fruit setting, and some trees full of bloom had no fruit. On the whole there has been a fair crop of Apples, the best being Keswick Codlin, Manks Codlin, Burr-Knot, Lady Henniker, Ribston Pippin, Lord Grosvenor, Rymer, W. E. Gladstone, Cox's Pomona, Lane's Prince Albert, New Hawthornthorn, Sturding Castle and Alfriston. Pears are almost a failure; the best are Williams' Bon Chrétien, Winter Nellie, Beurré Clairgeau, Jargonelle and Marie Louise. Plums have been good, Victoria being best amongst the cooking kinds. Jefferson and other dessert kinds have been good on walls; Peaches, Cherries and Apricots have been good. There has been a heavy crop of Strawberries and other small fruits, with the exception of Black Currants. The bushes appeared to stop growing and the fruit dropped off during the dry time. Most kinds of vegetables have done fairly well, although the drought has told much on some things, especially Peas. Early Potatoes have been good and quite free from disease, later sorts also being good.—J. S. UPEN.

APRICOT TREES IN COTTAGE GARDENS.

"R. P. S.'s" notes on Apricots (p. 363) remind me of a remarkable tree which I saw last summer growing on a wall in a cottage's garden about six miles from here. I happened to be judging at the show held in the village, and the secretary took me to see the tree in question. The situation was a very sunny one, and the tree seemed quite at home under the somewhat rough-and-ready treatment it received. The crop it was carrying exceeded in weight anything I had previously seen, and on questioning the wisdom of allowing such a quantity of fruit to remain on the tree, it was met by the reply that it always had caused similar quantities and seemed none the worse for it. My own opinion however, in such cases is that my last straw breaks the camel's back and the trees are sure to break down sooner or later. The soil in which the tree was growing was not by any means a light one, but the garden lay high and was abundantly drained. This latter condition makes all the difference, as I have noticed that of late years trees growing in strong soils in low-lying gardens collapse much sooner, as a rule, than those growing in a lighter and more porous medium. The trees to which I referred some time ago which were planted in a gentleman's garden near here in a strong loam did splendidly for a few years, but the last time I saw them they were disfigured by a bollard having gone off here and there, paralysis first appearing in spring after a very wet autumn, the wood formed in such a soil naturally being strong and not ripening thoroughly through lack of sunshine. "R. P. S." says that what with coddling and fads the Apricot is being cultivated out of existence. No doubt too formal training and close spurring tend to weaken the constitution, and I have always recommended laying in as many young shoots as possible between the main branches, in order to encourage a free root action, and to disbud in spring, so as to have only a fair amount of wood and to let in the light and sun can penetrate. It has always seemed strange to me that gardeners disbud right enough their Pease trees on walls, but seldom lay a hand on Apricots at that season. The fact, however, remains that even in old-fashioned gardens managed by first-rate fruit growers, where Apricots flourished formerly under the orthodox system of training, the trees do now but very indifferently. The great complaint now-a-days is not, as "R. P. S." says, that the fruit will not ripen, as this it does

perfectly in Notts and Yorkshire, but that the trees, just when one imagines everything is well, go off suddenly, either partially or entirely, from withering or paralysis. The best remedy against this is open borders containing plenty of lime-free, a medium amount of foliage only, and plenty of root moisture during the growing season.—J. CRAWFORD, *Newark*.

The notes on Apricots which have appeared in recent numbers from different parts of the country are very welcome, as evincing an awakening interest in this very useful fruit, and may possibly lead to planting on a considerably larger scale than has been the case of late years. Certainly the fact that the Apricot is available alike for dessert-arts or preserving should place it a good second to the Peach among choice fruits. It will, I think, be generally admitted that given a combination of adverse conditions—climate, soil and situation it is hardly advisable to attempt its cultivation on anything like a large scale—at least, I know more than one gardener well up to the mark in fruit growing who could make nothing of it given a heavy annual rainfall and a minimum of sun, but if the climate is all right and it is only the soil and situation that are wrong, the necessary alterations can be made to meet the requirements of the trees. So far as the south of England is concerned, I have always found Apricots do best on a west wall, or at any rate, an aspect anywhere between south-west and west, and for soil a good holding loam or as near that as possible. If the natural soil is light and sandy, it should be worked out by degrees and something heavier substituted, good stiff road sidings and a little—a very little—cow manure are a good compost. It seems almost superfluous to caution against cropping close up to the wall, but this is still done in some gardens, and it should, therefore, be known that the Apricot, perhaps of all fruits, cares least for this disturbance and opening up of the soil. An alley of 3 feet is not too much if the subsoil is open and absorbent, and it should be kept as hard as a road. Given neglected trees are not growing under good conditions, the above treatment is to be recommended so far as the roots are concerned. For above-ground treatments—such as badly cankered can be easily removed, whilst in the case of those only partially affected, the bad part must be taken out and the place filled in with clay, at the same time it is always advisable to encourage any healthy growth below the sora, laying this in for two or three seasons, even if the trees are extra thick. Diseased limber can by this means be gradually replaced by healthy growth. I can personally vouch for this, having more than once had to deal with a lot of badly cankered trees. I only grow two varieties, Kaisha and Moorpark, the former both the smaller and the earlier fruit. The Apricot being the earliest flowering among fruits renders it naturally very liable to suffer from spring frosts. For several seasons I had for Apricots a sort of makeshift protection in the way of Spruce boughs on poles, but finding that the fruit was much appreciated, have resorted lately to half-inch mesh fish-netting of double thickness, and this generally brings the tree safely through unless a sharp frost follows a day of sleet and rain and the blossom is wet. Our three chief enemies are grey aphids, blackbirds and earwigs, the two former can be dealt with satisfactorily by insecticides and netting, but the earwig is very troublesome, and in some seasons it is a difficult matter to secure sound dessert fruit. In all gardens where old trees of the Apricot are inclined to gum and canker, it will be found advisable when dealing with newly-planted stuff to avoid the use of the knife as much as possible for a season or two, doing the necessary work of restriction by spring disbudding.—E. BURRELL, *Clearemont*.

Pear Beurre d'Anjou.—This is very fine this season, but, like many others, will not keep so long as usual. It is a hardy growing variety and will succeed in almost any soil, with the exception of that which is cold and damp. It should

then have the protection of a wall, and be grown either as a cordón or a diagonally-trained tree. The fruits have a smooth, yellowish green skin, sprinkled with small brown dots, and they grow to a good size under good cultivation. The flavour is sweet and perfumed and the flesh tender and white.—S. E. P.

Pear Dana's Hovey.—This Pear is similar in flavour to the Seckle, but much larger and later. Like the Seckle, it was introduced from America, and is a valuable addition to the class of eminently eligible flavours. It ripens in early November it ripens during the latter part of December and is very delicious, the flavour being quite equal to that of Seckle. I generally obtain the largest fruits from a bush on the Quince, but, unfortunately, the tree is not a robust grower on this stock. On the Pear stock the tree makes a fine pyramid, but the fruits come much smaller. In point of flavour I cannot detect the slightest difference between them, both being equally rich. I would advise anyone about to form a collection to include this variety and to grow it in bush or pyramid form.—S. E. H.

SHORT NOTES.—FRUIT.

Robins eating Grapes.—Robins are rather numerous in this district and often cause trouble by attacking the late Grapes, and if not noticed they soon spoil many of the best bunches. Many people are not aware of the Grape-eating propensity of Robins, and lay all the blame to mice.—J. C. Notes.

Pear Duchesse d'Orléans.—This is a very handsome Pear of French origin, and, although it is not a particularly early fruit, it is ripe by a place on a wall on warm soils. As a cordón on the Quince, it bears large, brightly-coloured fruits, which are very attractive, the bright red and yellow tints on the sunny and shady sides of the fruits being very pronounced. It ripens during October, and has a white, melting, juicy flesh.—A. W.

NOTES FROM ALMONDSBURY.

The summer of 1896 has been a very trying one in my garden; it seemed impossible to keep some plants alive, and every tall-growing herbaceous plant was stunted and short-bloomed. One of the few that delighted me and astonished strangers was Ipomoea pandurata. My plants ramble over a Plum tree and a stone wall and were covered with bloom. Calochortus in a frame were very pleasing. During the last three months Crocosmia aurea maculata has been full of bloom. Grown in a pot with cool treatment, Crocosmias are delightful; they will not stand the heavy rainfalls of September and October in the open and they are not useful for picking, but as light and graceful greenhouse plants they are, to my mind, unequalled in this way, and increase very rapidly. Eremurus robustus gave me two splendid spikes of bloom and promises the same for next year; indeed, this plant is painfully forward. Late Iris stylaris speciosa has been flowering freely; quantities of this perished here in the 1895 winter, and I have raised a number of plants of this and the white form from seed. This grows very quickly from seed. Lachenalia aestuans is very interesting to me just now. I have several lots which are now showing their spikes for the first time. If any lots of these would send me pollen of good kind, in a few weeks I should be greatly interested. Owing to the heat these bulbs seem very forward this year. It will give your readers some idea of our S.W. drought when I say that out of 100 Dahlias fifty never gave one bloom. There was not a pod of seed on the Daffodils. Iris aurea and ochroleuca were finer than I have ever seen them here, and there is much seed on them. The Chinese Peonies were short, but many of the Japanese Moutains did well. These promise well for 1897. The wood is well ripened, and the present cold is all in their favour. Chrysanthemums never grew, though well supplied with water. Indeed, we want here a wet summer next year—at any rate a dripping June—for though

we have had 14 inches of rain since August 1, we are still 11 inches short of our average. It is delightful here to see how good herbaceous plants are becoming common in the cottagers' gardens. Bedding plants are disappearing and the old plants are cultivated. Villagers erect small greenhouses and spend time and trouble on their flowers. Some even buy Daffodils and other bulbs; these they used here to despise as common. That word "common" has much to answer for. Is it education that is beginning to tell at last?

C. O. MILES.

NOTES OF THE WEEK.

Hippeastrum alunicum.—Several fine plants of this species are now in flower at Kew, where they make a rich display. These flowers are of a vermillion crimson hue, with darker base, the segments also distinctly veined and netted.

Marguerite Carnations.—Where Carnations are much in request in the autumn months, this strain is of great service, as by growing the plants from seed, they bloom in about six months or less, and provide a useful and varied lot of bloom at all times.

Magnolia glauca.—A large plant of this on the ground at Kew is still producing a few blossoms, and while it can scarcely be said to make a good bush, the plant appears to be a most persistent bloomer, as it is carrying as many flowers as was the case in August last.

Crickets and Carnations.—Quite recently in a large market nursery where winter Carnations are a feature we were surprised to note the destruction caused by these insects, more particularly to the expanded flowers, quite a large number of them being nightly destroyed.

Scutellaria Mocciniana.—The vermiculose heads of this are now very showy in the greenhouse. It is an excellent plant for flowering in comparatively small pots, and in this way may be used in divers ways. The plant is of comparatively easy culture, and roots freely in a warm bottom heat.

Eupatorium odoratissimum.—This free-growing and free-flowering species is largely grown at Syon for cutting. Among useful and continuous flowering subjects this plant is still greatly valued at Syon, that is, if one may be guided both by its numbers and the size of the plants that are to be seen there.

Hibbertia dentata.—Among greenhouse climbers flowering at the present time this plant is worthy of notice by reason of its peculiar habit. Allowed to droop naturally from the rafters in the greenhouse at Kew, it presents a very pretty sight with its bright golden yellow blossoms occurring at about 8 inches apart on the pendant growths.

Begonia metallica.—Not only one of the showiest of the genus, but it is also among the most free flowering. Considering the wealth of decidedly pretty and useful flowers these Begonias provide, it is puzzling why such charming kinds as this, with B. Haageana and B. echinosepala, are so rarely seen beyond the limits of the botanic garden.

Plumbago capensis alba.—This is a chaste climber, particularly in large structures that can bear the weight of its growth in a more or less natural manner. Thus grown, it is one of the most exquisite climbers, producing its pleasing sprays of blossom for a long time. Both kinds, the blue and white, should be grown for their intrinsic worth as greenhouse plants.

Elaeagnus macrophylla.—In the notice of this shrub (p. 383) I am surprised at the absence of any allusion to the perfume of the blooms. This is very delicate and much like that of Gardenia. There is a plant in this village which is 8 feet high and 12 feet in diameter, and which has hundreds of blossoms upon it!—W. T., Bishopsgate, near Liverpool.

Rhododendron Mr. Heal.—This is one of the forms of R. multicolor and has pure white

flowers in compact trusses. It is a very beautiful and useful variety, and is now flowering freely, as indeed it has been for some time past. A choice assortment of these dwarf hybrid forms is most useful in the greenhouse when in flower, and associates well with most things.

Nerine undulata.—This frail and pretty species has the important characteristic of being both free flowering and lasting a long time in good condition. This is always most noticeable in houses that are both dry and well ventilated, and in such the pretty pink heads are very charming. N. pudica possesses similar good qualities when grown under the same conditions.

Rhododendron Princess Alexandra.—The waxy-looking blush-white flowers of this variety are very charming, and being somewhat freely produced on comparatively small plants, this Rhododendron should be freely grown where greenhouse species have a place. Blush-white at first, its flowers become pure when well expanded, and being substantial looking, its trusses of bloom are very attractive.

Exacum zeylanicum var. macranthum.—Among stove flowering annuals this is now very striking in one of the warm houses at Kew by reason of the intense violet-blue of its flowers. The plant is of somewhat erect growth, and producing its axillary and terminal racemes rather freely makes a fine show. The plant is well worth attention for the sake of the colour of the flowers, which is not plentiful in the warmer species.

Lycoris aurea.—A beautiful group of some twelve dozen plants in flower at the Drill Hall on Tuesday last attracted many admiring. The rich orange yellow flowers are very striking and well worthy of attention, if only from the fact that it flowers quite late in the autumn. The plant is well worth taking in hand, as by seedling it seems improved forms may be secured. The above group came from Messrs. de Rothschild, Acton (gardener, Mr. Reynolds).

Flowering of Camassia maxima.—In a note on this plant in THE GARDEN of November 14 (p. 388) Mr. Gumbleton said: "It has not bloomed, it is believed for the first time in Europe simultaneously in at least three English gardens." I bloomed C. maxima in October 1894. Notice of the same appeared in the *Kew Bulletin* of November, 1894 (p. 402), and in *Gardener's Chronicle*, January 12, 1895 (p. 44).—WM. MACKIE, Mythe Castle Gardens, Ticehurst.

Veronica Andersonii foliis variegatis.—The value of this in the open garden is fairly well known, though it cannot be said that the best use is made of so good and effective a plant. At Kew No. 7 greenhouse are large groups of it, while in No. 1 house, where it is grown in pots, it is beautiful in the extreme. In many greenhouses a good deal of monotony is apparent, which the judicious use of some such plant as this would certainly considerably modify.

Pelargonium Raspail Improved.—For winter flowering this variety is especially valuable, and in the dull November days the brilliant blossoms are very effective. The individual flowers, too, are much larger than in the old form, and being semi-double stand well when cut. It is surprising the number of useful sprays that may be gathered from quite small plants, while those of larger size that have been specially prepared for winter flowering yield considerable quantities.

Nymphæas.—There is quite an interesting series of these plants in bloom in the Lily house at Kew, and, judging by many buds, a succession of flowers will be for some time forthcoming. Of N. Lotus there are the varieties rubra and devoniensis, both possessing bright rosy coloured flowers. There are also N. stellata, with blue flowers, N. scutifolia, blue, and N. gigantea, which is also blue. These latter are very useful for variety, but the colour cannot be compared with the bright rose of the first named.

Civilia miniatæ.—There are very few things more showy among greenhouse plants or more

welcome than these. Flower when they will, there is always room for their bold trusses and distinct colours. Notwithstanding the many additions to this group, the original species is well worthy of culture. Indeed, quite recently in the Camellia house of a private garden we noted some fine pieces, pushing up handsome trusses, while the expanded flowers tended to relieve the monotony of the shrubs named, thus performing a two-fold purpose.

Poppy Anemones from Cork.—Mr. Hartland sends us a box of these, showy, varied, and of many colours, some good, some bad, and some monstrous, all very vigorous. The fixing of certain good coloured races of these Poppy Anemones is worth thinking of, especially the varieties that one could depend upon getting certain definite hues from. They must be very precious to people in the southern and warmer districts, but fail in some heavy soils and midland places. These Anemones were raised from seed sown in March, 1895, but it is easy to have them in flower from seedlings raised the same year.

Cypripedium Calceolus.—In reply to H. Selfe-Léonard, Guildford, who asks for information as to the above Orchid, I would say that while travelling through Switzerland in May, 1894, I came across a nice lot of Cypripedium Calceolus growing most luxuriantly amid green pasture land over the gorges of the Tamina, near the village of Ragatz. The plants were then (May 24) in all their beauty; the soil was fibrous loam, position sloping W.N.W. At a short distance from these, *Trollius europaeus* was growing by tens of thousands under the shade of trees, while the Lady's Slipper was quite in the open.—W. MAUGER, Guernsey.

Luculia gratissima.—This is one of the most welcome, as well as the most fragrant, of greenhouse shrubs now in bloom, and for the sake of its fragrance, apart from the ease with which it can be grown, it should be included in all collections of greenhouse plants. The species is particularly well suited to the larger greenhouse, where ample room can be given. Its fragrance is always appreciated because not overwhelming. Among autumn-flowering subjects this is of the greatest value, very little warmth being needed to bring its flowers to perfection. The plant is of comparatively easy growth, and if liberally supplied with root room and given a rather generous treatment while growing, will not lose its foliage so much as is usually seen. A somewhat vigorous shrub by nature, it will endure a fair amount of feeding. The species comes from the Himalayas, and may be seen in good condition at Kew at the present time.

Erythrina Constantiana.—This very handsome flowering tree has bloomed for the first time in Europe during the summer of this year in the garden of Mons. A. Constant at the Villa Nibbi at Golfe Juan, near Cannes, and is well figured in the current number of the *Paris Révue des Jardins*. The full description by M. Marc Michel, of Geneva, gives the origin of this fine tree is quite unknown by its owner, who sowed the seed from which it sprang in the year 1880. The plant developed rapidly, and during the sixteen years of its life attained the height of 10 metres, or about 32 feet, with a circumference at base of its stem of 14 metres, or 4 feet 1 inch. Its flower-head is of large dimensions and exceedingly handsome, with individual flowers of a good size and of a deep blood-red colour on the large upper petal, with a blackish purple pouch underneath, out of which protrude the prominent pistil and bunch of white anthers. This fine species is closely allied to E. caffra, a native of the Cape, and well known in our gardens, but it is sufficiently distinct from it to entitle it to a separate name. Only a single specimen of this Erythrina is at present known, but as it has ripened seed, it will doubtless before long be obtainable by plant lovers who have the patience to wait sixteen years to see it bloom. It will doubtless be almost hardy in Cornwall and the south of Ireland.—W. E. GUMBLETON.

STOVE AND GREENHOUSE.

BEGONIA GLOIRE DE SCEAUX.

WINTER-FLOWERING Begonias have undoubtedly advanced in popularity within the last ten or a dozen years, owing principally to the introduction of *B. socotrana* and the part it has played in giving us many distinct and beautiful varieties, all valuable for winter blooming. Messrs. Veitch and Lemoine have both

tint. The flowers, too, are large and borne in good sized clusters, while their colour is a pleasing shade of deep pink. As a rule it commences to flower about Christmas, and a succession of blooms is kept up for the first three or four months of the year, thus enhancing considerably its value as a flowering plant. Though distributed in 1887, and from that time grown to a limited extent in this country, it was not till 1893 that we were shown it in a particularly favourable light. This was when on January

should be, however, taken not to overpot it, as if full of roots better results are often obtained by assisting with a little manure water than by putting into very large pots. Neat little well-flowered specimens may be obtained in pots 5 inches in diameter, while an 8-inch or 9-inch pot is large enough for any purpose.

The illustration shows a two-year-old plant grown from a cutting by Mr. W. Roberts, Thame. It was cut down once, and at the time the photograph was taken it was over a yard high.

H. P.

Hæmanthus albiflos.—This *Hæmanthus*, although the blossoms are wanting in the bright tints of such as *H. coccineus*, *H. multiflorus*, *H. puniceus*, and others, is still very pretty, just now being in full flower. The leaves especially in some individuals are so thickly clothed with whitish hairs as to present quite a singular appearance. The most conspicuous portion of the inflorescence consists of the crowd of whitish stamens with their yellow tips, and they retain their freshness for a considerable time. While some species of *Hæmanthus* are very difficult to keep in health for any great length of time under cultivation, there are others that will succeed with ordinary attention. *H. albiflos* being one of these. Like many other bulbous plants from South Africa, it resents being disturbed at the roots, hence it should not be shaken out and divided unless it is absolutely necessary. A light greenhouse will just meet its requirements.—H. P.

Dimorphotheca Echloni.—As Marguerite-like blossoms still retain their popularity, it is very probable that this plant will be more generally cultivated when better known. It has been planted out during the summer at Kew, and towards the autumn it flowered freely, while under glass it is still decidedly effective, and bids fair to be a useful subject for the decoration of the greenhouse at this season. The blooms are in general appearance a good deal in the way of those of the Marguerite, but the disc is purple, and the interior of the petals is also suffused with the same tint, this feature being most pronounced when in the bud state. A second *Dimorphotheca* (*D. graminifolia*) has been for some years very attractive at Kew, where in a cool greenhouse it flowers during the spring and summer months. This succeeds well in a large pan, its habit being to form a tuft of procumbent stems, clothed with bright green linear leaves, while the blossoms, which are somewhat like a single Marigold, are borne on long wiry stems. The flowers, which are over 2 inches across, are white, with a bronzy-purple centre, the exterior of the petals being also suffused with the same tint. This succeeds well with ordinary care and attention.—T.

Nerine undulata.—For the last three months or so a succession of blossoms of the different *Nerines* has been maintained, but now they are all over, or at least past their best, except *N. undulata*, which though less showy than the larger kinds is still very pretty. The specific name of *undulata* is a particularly appropriate one. The blossoms, which are borne in a loose head on a slender scape 9 inches to a foot in height, are of a bright pink colour, the segments being very narrow and much waved. It is not seen to increase in the shape of single bulbs, but from its slender character needs to be grown several together in a pot, or better still, it may be grouped in moderately deep pans. However it be treated in this respect, thorough drainage is very essential, while the soil should consist principally of good sandy loam, that will remain sweet for years without being renewed, as all the members of this genus resent being disturbed at the roots when once established. Many fail with the different *Nerines* in attempting to induce them to rest after flowering, as they push up their leaves as soon as the blossoms are past, and continue to grow throughout the winter, during which time a light open position in the greenhouse should be assigned



Begonia Gloire de Sceaux. From a photograph sent by Mr. A. J. Salter, Thame, Oxon.

distributed several charming hybrids of *B. socotrana*, while the present variety, *Gloire de Sceaux*, was sent out by MM. Thibaut et Keteler, of Sceaux, in France, during the year 1887. It was announced as a hybrid between *B. socotrana* and *B. subpetiata*, and in general appearance it is widely removed from any other variety that we have. The habit of the plant is stout and vigorous, and without any stopping it naturally forms a neat, compact specimen, well furnished with ample foliage of a thick texture and of a rich metallic

17 Mr. Jennings, gardener to Mr. Leopold de Rothschild at Ascot, sent up a beautiful group of this variety to a meeting of the Royal Horticultural Society, when it was awarded a first-class certificate. Since that time it has become far more popular, and is now included in all good collections of winter blooming kinds. Unlike the other hybrids of *B. socotrana*, this does not have a dormant period, but grows away freely during the summer months. It can be readily propagated from cuttings, and will succeed in ordinary potting compost. Care

them. A shelf well exposed to the light is a very suitable place for the different members of the genus, and though they must not be dried off, yet care should be taken not to over-water at any time. As spring advances they go to rest and remain dormant during the summer, when a good roasting is necessary to ensure the future display of bloom.—H. P.

RHODOENDRONS IN FLOWER.

At this time of the year the bulk of flowering plants in the greenhouse consists of Chrysanthemums, but the choice of subjects is by no means limited to this particular class, as many other plants are available for the same purpose—Salvias for instance; while among the more select and uncommon things now in bloom may be mentioned the different Javanese Rhododendrons, which are in many instances profusely laden with blossoms. The term "perpetual flowering" has been very appropriately applied to Rhododendrons of this class, for where a quantity is grown, and that in a temperature rather above an ordinary greenhouse, flowers to a greater or less extent may be had throughout the year. This autumn I think they are even more free-flowering than usual, the result in all probability of the weather we experienced during the summer. These Rhododendrons grow more or less at all seasons, and then form their flower-buds; thus, the hot weather being particularly favourable to growth when the plants were duly supplied with water and liberally syringed, we are now reaping the benefit of that stimulus in the shape of a grand display of blossoms. These Rhododendrons, beautiful though they be, are by many passed over, that is to say, they need more care than is bestowed upon the general run of commonly-grown greenhouse plants, while they are of but little use for cutting, and—an important consideration with many—they cannot be purchased at a very cheap rate. This is certainly true, but, as a set-off, may be mentioned the fact, that once established, they give but little trouble in the way of repotting, while with ordinary care and attention cuttings are not at all difficult to root, and thriving little plants can be obtained in this way; while, above all, is the fact of their perpetual flowering and refined appearance when in bloom, which at once causes them to be singled out from among the usual occupants of the greenhouse. Though it takes some time for a cutting just struck to attain the dimensions of a fair-sized plant, yet it is not for the whole of that period without blossoms, for tiny little plants no more than 4 inches high will often produce a tuft of bloom equal in diameter to their height. Many of these little plants will after flowering push out two or three shoots, and thus form the nucleus of a bushy specimen. Some varieties are, however, far more liable to run up tall and straggling than others, and in their case constant attention is necessary in order to lay the foundation of a compact plant. It is, as a rule, more difficult to get a good bush of the very brightly-coloured forms than it is of some of the others, and the two oldest varieties in this section, viz., Princess Royal and Princess Alexandra, are among the most satisfactory of all to grow into a bushy specimen. These Rhododendrons do not root at all vigorously; hence in potting particular care should be taken, especially as they will stand for a long time without repotting. When a plant, even a large one, is turned out of its pot it will be observed that the greater part of the roots is to be found on the upper half of the ball, and very frequently the fine hair-like fibres will form quite a dense mass just on the surface of the soil. This latter feature is more general when the plants have been in a rather warm and humid atmosphere. The best soil for these Rhododendrons is good rough peat, of a quality that will stand long without decay, a liberal amount of sand, and a good sprinkling of needles or charcoal about the size of beans, or larger. The drainage, too, should be thorough. A very desirable quality possessed by these Rhododendrons is that they will thrive amid the

smoke of London, which is more than can be said of many plants. Of the success attending their culture in a smoke-laden atmosphere, it may be pointed out that nearly all the varieties in cultivation have been raised at Chelsea by Messrs. Veitch, and they are still grown by them in a very successful manner, as is shown by their frequent appearance at the Royal Horticultural Society's meetings. Another point in favour of these Rhododendrons is that they are not often troubled to any great extent with insect pests, for though aphides sometimes attack the very young shoots, they are easily got rid of. Thrips are more troublesome if they once attack the under sides of the leaves, but a liberal use of the syringe will keep them away. The greatest trouble is sometimes caused by mildew, which is apt to attack some varieties, especially if the atmosphere is rather cold and stagnant, or the condition of the roots not all that might be desired.

H. P.

ASPARAGUS PLUMOSUS NANUS.

Since the introduction of this useful plant its cultivation has gradually extended and at the present time some growers have it by the thousand. It is chiefly grown for cutting, the flat feather-like branches being very useful for almost all kinds of floral arrangements. Among florists it is frequently called Asparagus Fern. Although the term nanus properly belongs to the dwarf form, that with the tall scandent habit is generally known under the same name, and though there is a great difference as usually cultivated, I am inclined to think the tall growing variety would, if propagated from division and confined to small pots, assume a dwarf character. I am supported in this opinion by the fact that a plant which had originally grown tall had become stunted and was taken up and divided, and having been frequently re-divided the divisions have not grown more than a foot or so high, while still showing invariably the tall up-tight cutting from seedlings on the most careful, but those propagated from division make the prettiest pot-plants. Seeds do not seem likely to become over-plentiful, for although plants may flower freely it is rarely that a good crop of seed sets, the flowers generally falling off almost as soon as they open. I am told that in South Africa, where it is indigenous, seed rarely ripens.

This Asparagus is generally treated as a stove plant and where kept free from insects it does well in a high temperature. It will do equally well in a cooler atmosphere, and is as good after the attacks of red-spider, which is one of its greatest enemies. To grow it successfully the chief point is to give it plenty of root room and good drainage. Any ordinary potting compost may be used but a light fibrous loam is preferable. To this may be added leaf mould and some well-rotted manure, or some peat may be used if the loam is heavy. Where required for cutting planting out is the best system, under favourable conditions a few plants will give a regular succession of useful material. The plants should never be cut in too hard, but to secure good-sized branches the old stems should be thinned out occasionally. Where the plants are strong and healthy they take a good deal of water and will suffer much if allowed to get too dry. Full exposure to the light is necessary.

A. H.

Tecoma Smithi.—In reply to the inquiry of "A. N." concerning Tecoma Smithi, I have flowered several plants raised from seed this year. The seed was sown about the middle of March in heat. The seedlings were potted and gradually hardened off, giving them a final shift into 5-inch pots and standing them out of doors in the sun about the middle of June. The plants were housed again about the beginning of September and the first plant was in flower by the end of that month.—E. WORSFOLD, Bath.

Housing Carnations.—There can be no doubt that continued heavy autumnal rains are

very injurious to Carnations in pots, and if they can be accommodated it is prudent to house them early in September. Some plants of Souvenir de la Malmaison that remained in the open until October, although as green as Leeks until the heavy rains came, turned yellow, and on examination I found that the roots had lost their activity, and it has taken quite a month to restore them to their normal condition.—J. C. B.

Pelargonium Mme. Jules Chretien.—This single-flowered zonal Pelargonium cannot now be regarded as a novelty, but it is at all events still one of the best of that distinct section which owes its origin to Souvenir de Mirande, and to which the name of bicolor Pelargonium has been applied by some. This class is, however, quite distinct from the old bicolors, in which the title referred to the foliage and not to the flower. The variety Mme. Jules Chretien among its other desirable features has proved a very good kind for winter blooming. A peculiarity of the Pelargoniums of this section is that they all take longer to strike root from cuttings than the others—that is to say, those with scarlet, pink or white blossoms. The same thing may be noticed in many other classes of plants, especially Chrysanthemums, as some varieties will take nearly double the time of others to root.—H. P.

Begonia Gloire de Lorraine.—This Begonia was very much in evidence at the recent Aquarium exhibition, for its bright rosy pink blossoms stood out conspicuously in many of the mixed groups. It seems to have become more popular than any other hybrid of B. s. cotyledonaria, owing doubtless to its free-growing and free-flowering qualities. It has been taken in hand by some of our market growers, and in the regulation 5-inch pots it forms neat little specimens from 9 inches to a foot in height, well furnished towards the lower part with bright green roundish leaves, while the upper portion of the plant is simply a mass of its rich rosy pink blossoms. It will often bloom from autumn till the spring, and after that it goes partially to rest for a time. This Begonia needs at the present season of the year the temperature of an intermediate house to keep it in good condition.—H. P.

Begonia Dregel.—Although an old species, this Begonia is so distinct and ornamental, that it is worthy of a place in any garden where winter-flowering plants are needed. It is at its best during November and December; in fact, it cannot be relied on to produce many signs of bloom after Christmas. The habit of growth is so neat and compact, that plants in 5-inch and 6-inch pots are useful for windows, jardinières or table decoration, and when well grown it produces almost as many flowers as leaves. Cuttings struck in spring and grown on freely will make nice little specimens by the close of the growing season. Up to the middle of June they should be brought along in warmth, but where they get plenty of air and light. During the summer months the plants do best in frames, as there they can when the weather is fine be fully exposed to the night dews. Grown in this way they make a short, sturdy growth and flower with great freedom.—J. C. B.

Moss system of layering Carnations.—In THE GARDEN of November 7 ("R. M.") inquires as to what is meant by the Moss system of layering Malmaison Carnations. In a July number he could have read "J. C.'s" advice as to the above system. In July I mossed upwards of 150 shoots, and at the same time put in several strong healthy cuttings. Several plants were also layered outside. In mossing I followed out the instructions, and in less than one month roots were visible in abundance. I then potted the layers into 3-inch pots, and in about ten days after on examination I found several plants had pushed roots into the soil. The other two systems had a fair trial, but the mossing system is far the best, as I had not a single failure. Not so with the cuttings. The layers (outside) were also satisfactory, inasmuch as rooting was concerned, but being exposed to the strong sun (though water was given

to keep the soil moist) they were much slower in rooting, and of course lost several of the lower leaves, which did not occur with the mossed ones. The plants treated in the three ways are kept separate so as to watch their progress up to flowering.—M. D.

Dracena Sanderiana.—An objection has been taken to this Dracena that, despite the

sets in be removed from the greenhouse to a warmer structure, in order that the blossoms may continue to expand. The flowers are rather small, tubular in shape, and scarlet tipped with rich yellow. Cuttings put in during the spring are not at all difficult to strike, and the cultural requirements of the plant are by no means exacting, as it will grow well in ordinary potting compost. Red spider sometimes attacks the leaves, especially in the height of summer, and unless checked soon causes them to turn yellow, but a free use of the syringe will keep this insect pest away.—T.

Tillandsia Lindeni.—Bromeliaceous plants are not popular in this country, but some of them produce such bright and showy blossoms and are attractive so long, that they will repay special attention to their requirements. *Tillandsia Lindeni* has been for the last two months very beautiful, its distinctness from any thing else being so marked. The narrow, gracefully reflexed leaves are disposed so regularly as to form quite a symmetrical specimen, the centre of which the flower-spike is pushed up. This reaches a height of 3 inches to 4 inches, the upper portion extending more than half way down, being clothed with two opposite, closely imbricated rows of bracts of a rich bright pink colour. These conspicuous bracts give the upper portion of the stem a width of at least 3 inches, and it is from their axils that the rich purple flowers are produced. The blossoms are

particularly attractive in colour, and though the individual ones do not last long, a succession is kept up for some time. The bracts, too, retain their brightness long after the flowers have faded. This *Tillandsia* was introduced from the Andes of Peru in 1867, but it is still far from a common plant, though pretty generally distributed in gardens. There are two or three forms of this in cultivation, the best being that to which the suffix *vira* is generally applied. The cultural requirements of this *Tillandsia* are not at all difficult, though it is a less vigorous rooter than many Bromeliads. Good fibrous peat, with a little Sphagnum and a dash of sand, will suit it well. Thorough drainage and a liberal supply of water during the growing season are also essential.—H. P.

Fuchsia corymbiflora alba.—The typical *Fuchsia corymbiflora*, introduced from Peru in 1840, is pretty well known, though, in common with most other species, it is now seldom seen. The immense clusters of rose scarlet-coloured blossoms render it very attractive when in bloom, but from its vigorous habit of growth it is principally suitable for large structures. Many of the original species of *Fuchsia* merit extended cultivation, and one of the very best. The variety *alba*, which is now flowering in No. 4 greenhouse at Kew, differs from the typical kind only in the colour of its blossoms, which in the case of *alba* have the exterior of the tube white and the reflexed sepals of a pinkish tint, while the petals are of a deeper hue. It is certainly very distinct and pretty. While many garden varieties of *Fuchsias* are so much alike that the name is the principal point of difference, some of these species afford a pleasing variety, and in freedom of flowering many of them are little inferior to the garden forms. At Kew many of these *Fuchsias* find a congenial home, and the distinct *F. fulgens* and some forms of *F. macrostema* yielded a good display when planted out during the past season. In addition to the species above mentioned, there are among larger growing kinds, besides *F. corymbiflora* and *ful-*

gens, such species as *F. macrantha*, *penduliflora*, *serratifolia*, *spectabilis*, and *splendens*, while the tiny blossoms of *F. microphylla* and *thymifolia* are both curious and pretty. The vermilion-coloured blossoms of *F. triphylla* cause it to be singled out from all the others when in bloom, while the New Zealand *F. procumbens* with its long wiry shoots is quite distinct from any of the rest.—H. P.

FLOWER GARDEN.

RUDBECKIA LACINIATA FL.-PL.

This double Coneflower is new to cultivation. It is of easy cultivation, requiring a rather moist situation for its perfect development, but doing fairly well under ordinary cultivation. In moist situations it will attain a height of 8 feet. It forms a tuft about 2 feet high, of rather large laciniate leaves, from which spring up tall many-branched stems. These main stems have from ten to twelve long, slender, wiry side branches, again dividing, and producing at the ends their double flowers, which are pure yellow in colour. The petals are slightly reflexed, very double even to the centre, and form a flower 2½ inches to 3 inches in diameter. The crown flower is often larger.

The plant blooms in early August. When cut the flowers last a long time, and the long, wiry, semi-pendulous stems, carrying two, three, and sometimes four flowers, will be found most useful in the house. Scattered along the side branches are small, deeply cut leaves, which furnish enough green to set off the flowers. The group illustrated contains



Flowers of *Rudbeckia laciniata* fl.-pl. From a photograph sent by Mr. Egan, Highland Park, Ill., U.S.A.

beautifully clear character of its variegation, it is too short in the leaves and the plant is apt to run up too thin to form an effective specimen. This is, however, to some extent counterbalanced by the fact that it can be very readily increased from cuttings, for in the case of these long stems, which, by the way, retain their foliage for a considerable time, they may be cut up into single joints, leaving a leaf at each, and if put in as cuttings they soon root and quickly form neat little plants. As an old plant or two treated in this way will yield a considerable number of young ones, these latter may, if a bushier specimen is needed, be grouped three or more together in one pot, when, of course, a greater wealth of foliage will be the result. The very large specimen at the Temple show consisted of numerous plants grouped together for the purpose. In many cases, however, neat little plants in small pots are very useful, and as this species is so readily propagated, it is easily obtainable. It requires no special treatment, and the cuttings do well if put singly into small well-drained pots filled with a sandy compost and plunged in a gentle heat in a close propagating case. The long Reed-like stems may also, if needed, be used for cutting.—T.

Manettia bicolor.—Spring, summer, autumn, or winter seems to have but little effect upon this brightly coloured slender growing twiner from the Organ Mountains of Brazil, as it blooms more or less continuously throughout the year. The requirements are such as to suit its requirements. It will hold its own in the greenhouse, but for flowering in autumn and winter it succeeds best in an intermediate house-temperature, where, associated with Begonias, Tydeas, and many other subjects, it is just at home. This *Manettia* was introduced over fifty years ago, but it is now quite uncommon—why, it is hard to say, as it is so bright and effective, and available for different modes of culture, as draping the rafters of a house it will flower freely, and the slender style of growth, taken into conjunction with its small leaves, does not obstruct the light to anything like the same extent as many more vigorous climbers. Allowed to ramble on a few twiggy branches stuck in a pot or trained to a trellis it is also very effective, and plants grown in this way have an advantage, inasmuch as they can when autumn



Rudbeckia laciniata fl.-pl. at Egansdale, Highland Park, Ill., U.S.A.

three young plants, and is 8 feet high. The bouquet was four days old when photographed. Highland Park, Ill. W. C. EGAN.

FLOWER GARDEN NOTES.

AUTUMNAL ROSES.—The exceptionally fine lot of Roses secured this autumn both in the open on standards and bushes, and on walls, leads to the suggestion that these varieties which may be safely relied on, given a fairly mild season, for autumnal flowering might well be strengthened, and if there is no other plan for them, any isolated beds or turf that have hitherto been devoted exclusively to summer bedding plants can be utilised. Such beds would naturally be in a fairly good order, but if they are rather on the light side it will be found advisable to work at planting time a mixture consisting of three parts stiff road sidings to one of cow manure; this, with a good annual surface mulching, should carry the Roses on satisfactorily for several seasons. The varieties that have produced the greatest amount of autumn flowers are the old Gloire de Dijon, Le France, Souvenir de la Malmaison, Papa Gontier, and Homère (one of the freest, but, unfortunately, comparatively scentless), and of the Polyanthus type, Gloire des Polyanthus, Little Dot, and Perle d'Or. It is not that in any case specially good flowers are produced, but the bud display is very pleasing. If there is no objection to half standards, the Teas may be planted in this way, and bushes of the Polyanthus used to fill up the beds. In the spring the mulch can be broken down and a bit of Mignonette sown all over the bed. It will revivify in the compost, and make a carpet for the Roses. So far as wall Roses are concerned, Safrano and Ophirie, in addition to Gloire de Dijon, seem to give us most autumn flowers. As this is, by the way, a subject of interest to all who have pleasure gardens through October and the early part of November, perhaps one or two readers who grow Roses rather largely will tell us what varieties they have found most serviceable.

PERNETTAS.—The excellent stand of Pernettas shown at the last Drill Hall meeting should serve to draw attention to the value of these things for autumn work. A few clumps make a pleasing display scattered here and there in pleasure grounds at a time when nearly all flowers are over, although, in common with nearly all berry plants, I expect in the majority of places their value is somewhat neutralised from the fact that the birds quickly make an end of the berries. The plants seem to berry much more freely on some soils than others, and the state of the weather at the time of the expansion of the flowers is doubtless also an important factor towards a successful set. These Pernettas make admirable pot plants for the winter months, and they possess an important quality lacking in Solanums, viz., that they stand remarkably well in the dwelling house. They can, therefore, be utilised in this way, and then planted out in the positions they are to permanently occupy. Independently of the tiny white flowers and the delicate fragrance of the berries, the foliage is neat, bright, and attractive.

HARDY FLOWERS.—With the exception of the Chrysanthemums, the latest of the Starworts and the new Wallflower referred to in a recent note, hardy flowers are now about at an end, and any work required amongst them in the way of division, alteration, replanting, &c., may be pushed forward as soon as time permits. We can hardly hope for another season like that of 1895-96, when groundwork and planting were practicable nearly all through the winter. Putting off at the present time may mean no chance of getting at the work until another February, and planting in that month, if followed by a very dry time, means that no very satisfactory progress is made through the following season. I take it there is nothing like getting as much of the work as can be performed finished in autumn. A good mulch may follow, and everything is on the right way for another season's display. Portions of beds or borders that are to be filled with things not yet quite ready for removal may be turned up and a peg inserted for future guidance. In the event of anything concerning whose hardiness there is a doubt, the mulch may either be of increased depth at the present time or strengthened later on if the

weather is likely to prove exceptionally severe. Among the different inmates of the border that were planted with the view to permanent effect, that is, with the idea that they might remain undisturbed for years, will be found several that will be all the better for occasional renewal, in fact, unless this is done they will not be at all satisfactory after the second, or at any rate the third season, and when any sign of deterioration is apparent, they should be cleared away and a stand made with a new stock procured as may be deemed most suitable, either from divisions, layers or cuttings. In the planting of new beds or portions of borders, it is well to give the preference to those things that are most enduring. Some species are very beautiful in themselves, but their power of endurance is not great. Aquilegias and Peonies, for instance, stand but a poor chance in this matter against Pyrethrums, Phloxes, Sunflowers and many others. In selecting a certain number of plants, of which the three last-named may be taken as types, it is well to choose, as far as possible the best varieties, and it is well to give particular attention to the proper planting of the same. This advice may sound somewhat superfluous, but it is really necessary, because an idea sometimes prevails with the workman that, as the plants with whom he is dealing are hardy, some sort of treatment will do for them. A fair knowledge of the habits of different species and varieties is also necessary if the borders are large and the mixture is on an extensive scale. In the planting of all hardy bulbs and corms attention ought to be given that they rest on a firm basis and do not have a hollow of some 2 inches or 3 inches beneath them. Any that flower early in the season and whose foliage is quickly over, must be planted deeply to allow for some dwarf-growing plant to occupy the space through the summer months. The ordinary mixed herbaceous border is, however, hardly the place for bulbs of any description; they are best naturalised in grass, or, if in beds, with just one or two things that are in keeping with them. With the exception of a few familiar things, this particular class of plants has only come prominently to the front within the last few years, and even now might be much more extensively grown. Take the spring Snow-flake (*Leucojum vernum*) for instance. One may find it in many gardens and not see a plant of it, and yet it is in its season one of the most beautiful things we have for the flower basket, especially with its own foliage in darkness, it is most effective. Leucojum autumnale is a dwarf and, as its name indicates, late flowering variety, with flowers of a very delicate shade. *Triteleia* *uniflora* is another plant of dwarf habit, spring flowering, that throws up when established, a fine lot of flowers, useful alike for beds or cutting. Among hardy plants *Montbretia* justly take a high place; they suffered no check in the early part of the present season and grew away strongly, but, contrary to expectation, were much later than usual in coming into flower. They made ample amends for this, however, in the matter of duration. I do not think I ever had such a long-sustained season of *Montbretia* bloom.

Clarendon.

E. BURKE.

Pampas Grass.—I must confess to reading with considerable surprise "J. M.'s" (Charmouth) note (p. 369) on the effect of the severe winter of 1894-95 on his plants of *Gynandrum* and *Arundo*. My garden, perhaps the coldest one in this neighbourhood, as it is barely above sea-level, and has a good deal of water around it, is less than half a mile from the seashore, yet, though seemingly situated almost similarly to "J. M.'s" for it is in a deep valley, the *Gynandrum* suffered not at all from the frost, although some clumps had been divided and replanted not two months before the commencement of the severe weather, while *Arundo conspicua* was quite uninjured. In neighbouring gardens the experience tallied with mine, neither Pampas Grass nor Arundo being harmed. It seems curious that "J. M." who resides, I should judge, about thirty miles, as the crow flies, from me on the shores of the same bay, should

suffer so much more severely. Perhaps a greater degree of frost was experienced at Charmouth than at Torquay, where the lowest reading on the glass showed 17°, or 18°, of frost. This was on February 12, 1895. I remember some years ago seeing some hedges of *Eccremocarpus* macrorhizus at Rousdon, near Charmouth. This is far less hardy here than is the Pampas Grass, and I expect from "J. M.'s" experience with the latter that the hedges alluded to have also succumbed. The soil in my garden is a heavy loam, inclining to clay.—S. W. FITZHERBERT, *Torquay*.

Old-fashioned bedding plants.—In a recent issue "Dorset" referred to that once popular, but now much neglected plant, *Cuphea platycarpa*. *Cuphea latifolia* is also now very seldom met with. Ousting such subjects from the flower garden is a mistake, so many of the more showy, perhaps, but extremely delicate subjects presenting a sorry appearance after a violent storm or a term of wet, sunless weather. *Vermenas* and *Petunias* seem also to be ignored now-a-days. True, *Vermenas*, to do them well, require a good deal of attention, being very subject to mildew and red spider, but when in good condition they are very effective. Some gardeners say that our summers are not good enough to do *Vermenas* well, but when in Norfolk some time ago I saw, on a grass plot attached to a farmhouse, some half dozen beds of various colours in splendid condition. They had been pegged down in the usual way, and the effect was beautiful.—J. C.

NEW ZEALAND FLAX.

(PHORMIUM TENAX.)

The *Phormium tenax*, so well illustrated on page 369 of THE GARDEN, reminds me of the fact that this species is really a variable quantity, and quality as well, there being several very distinct variations from the type, and your figure, I believe, represents one of the best of all the forms. When I first commenced to grow *Phormium* I started, by accident, with the broad-leaved, pale green, recurring leaved type, which is not very hardy, and it rarely, if ever, flowers except in the warmest of soils and in sheltered places. At this period I thought—as, perhaps, some may do still—that *Phormium tenax* was *Phormium tenax*, but on passing through the princely domain of Powerscourt, in Co. Wicklow, some time afterwards, I there saw a very different kind of New Zealand Flax from that I grew, and I have since found this Powerscourt variety harder, more free-flowering, and generally better worth culture than is the common type. Your figure on page 369 reminds me of the Powerscourt plant, being more erect in growth, and having narrower and more glaucous green foliage, while the tall spikes of rich chocolate-coloured flowers are very freely produced. This erect-haited, glaucous-leaved, hardy and free-flowering form is evidently the best one to grow in most gardens, especially in cold localities and the like, perhaps failing to attract the attention of those who may have failed to establish the common half-hardy, broad-leaved, and spreading form or type that so rarely flowers. The former illustrated is evidently the one I call the best, or Powerscourt form of the species, because I there saw it first and noted its distinctness, although, I believe, Lord Powerscourt obtained the plant from Scotland, a fact that may throw a side light on its hardier character. So far I have grown at least six varieties of New Zealand Flax, viz., three green-leaved and three yellow striped kinds. These are *Phormium*, *P. tenax*, Powerscourt var., and *P. tenax atropurpureum*, an erect form, with glaucous leaves and purple-black leaf margins. Of the variegated kinds the hardiest is *P. tenax* *Veitchii*; a stronger growing or larger kind, with paler yellow or ivory striped foliage being *P. tenax* *variegatum*. I also had formerly a small, erect, variegated sort called *P. Colensoi* *variegatum*, which died the first winter it was planted out in the open ground. *Phormiums* are so bold and distinct even as grown in large pots or tubs in cool greenhouses, apart from their effect in the open air, that they

seen almost as well worthy of careful attention as are the Yuccas, Cordylines and Bamboos. In any case, those who desire to grow New Zealand Flax well in the open air should be careful to secure plants of the erect growing, hardy, and free flowering form you illustrate, and not the common broad-leaved and spreading type, which is only half-hardy.

F. W. B.

VIOLETS.

SINCE the plants were lifted and placed in frames the weather has been anything but favourable for them, and blooms are not so numerous as usual at this date. The plants, however, are strong and quite free from spider in spite of the dry time they had during June and July. This I attribute to the position the plants occupied when in the open beds, this being one on which the sun shines only for a few hours in the morning, mulching with spent Mushroom manure and copious supplies of water twice a week from the garden hose. Once a fortnight a little flowers of sulphur is mixed with the water for syringing, which further aids in warding off this insidious insect. Violets in many gardens this season present a woe-be-gone appearance, one large batch of plants which recently came under my notice being quite yellow from spider, the leaves also much discoloured. Good advice from you can be expected, and what is more the runners from them in spring will not be worth planting out. Some gardeners recommend an open sunny quarter for double Violets, but I have noticed that when grown in such a position the plants are invariably infested with spider and often a disgrace to the cultivator. I mentioned last year that, owing to the fact that the border on which I grow my Violets was of limited length, and an annual change of ground with an aspect just suitable for Violets impossible, the plants had, in spite of additions each season of fresh loam, leaf soil, and the edgings of walks and drives, shown signs of deterioration, and that I had therefore determined to take out the border to a depth of 15 inches, replacing it entirely with fresh compost. This I did in January last, using a good loam from an old sheep pasture and mixing with it leaf mould from Pine stovs pits and road sidings. This year I intend adding a good quantity of the two last named ingredients, mixing all thoroughly to a depth of a foot or 15 inches, as I have found that Violets revel in such a compost, the leaf mould being literally permeated with rootlets.

As a rule I do not recommend the use of farmyard manure, as although it makes the growth promoted, the plants often fail to flower freely and the quality of the blooms is poor. Moreover, sudden foggy winter injures the foliage. Many growers make a great mistake in colding the plants after putting them into frames in October, keeping the lights over the plants and perhaps syringing daily to enable them, as they say, to become established in their new quarters. Such treatment is not only not needed, but positively injurious, the leaves being thereby drawn up and rendered weak and flabby, the first cold wind shrivelling up the edges like matchwood. Plants properly grown and furnished with good balls of roots require no shading, colding, or syringing, but simply a good seaking and full exposure day and night as long as the mild weather lasts, drawing the lights over at night, but tilting them up when slight early frosts occur. This ordeal will, other things being equal, enable the plants to withstand the sharpest winter with impunity. I noted Mr. Parker's advice last autumn, viz., to take off runners then and prick them into a frame or boxes, with a view to securing strong plants, well rooted by April, for producing an early supply of bloom. I tried the plan with that superb and too little-known variety Lady Hilda Campbell, a capital substitute for the fragrant Nepentilum where that somewhat capricious sort—at least in cold, late districts—will not thrive satisfactorily. I had previously failed to get plants of it as large as desirable by spring propagation, but this autumn they are all that can be

desired. Those who fail to get bloom in quantity in autumn from their spring-rooted stock of Marie Louise or any other variety, as is the case in some gardens, will find a way out of the difficulty by adopting Mr. Parker's plan.

I think that a change of stock is an advantageous with Violets as with Strawberries, and it is an easy matter to exchange runners with some brother gardener living at a distance. I am sorry to learn that in the neighbourhood of Norwich Violet growers are much troubled with a kind of fungus, which sometimes entirely destroys whole batches; indeed, several growers for market have given up Violets on that account. I think a change of runners, and at the same time a change of ground, might overcome the difficulty, as an American gardener, who cleared out his stock entirely and procured fresh runners from a distance, writes me that his Violets are now quite free from the disease.

J. CRAWFORD.

CAPE BULBS.

MR. A. J. BLISS's interesting article (p. 348) on the above is of particular value, since it indicates the opinion of one who has had opportunities for the close study of these subjects in their natural state as to the conditions that conduce to their vigour and free flowering in their native habitat, and the means that may be suggested by these conditions as likely to aid in their successful culture under these alien skies.

I have often remarked, as alluded to by your correspondent, upon the great depth at which the bulbs are often found. *Vallota purpurea*, which grows in profusion in the Kynsna district, is often buried under from 12 inches to 14 inches of soil. *Amaryllis blanda* I have found over a foot deep. The legions of bulbs that at their blossoming time swath the whole hillsides with breadths of colour, which glows for miles, are found at varying depths, sometimes, as the rock strata crop out of the sloping surface, being barely covered by the soil; sometimes at such a depth that the longest hunting knife is unable to reach them. In the well-watered Zitzikama Forest, which, at the eastern end of the Kynsna district, stretches for many miles between the Outeniqua Mountains and the sea, there are many of these rivers or streams, admirably described by Mr. Bliss, running in deep kloofs through the seven-mile broad flats that reach from the range-foot to the sea-cliffs. Most of these streams are shallow and boulder-strewn, not unlike a Scotch trout stream, and on their banks near the margin of the water the *Vallotas*, as well as many other bulbs, grow, while higher up in the steep banks of the kloofs. These grow in sharply defined wet and dry seasons in the district alluded to, heavy rain often falls while the bulbs are flowering, and in a few hours, fed by the myriad runnels of the adjacent mountains, the streams are impassable torrents, many feet in depth, down which limbs of trees hurry over submerged rocks that only the day before had but their bases lapped by the water. These floods are usually not of long duration, but I remember one February being detained for three days on the banks of one of these rivers. Nine-tenths of the *Vallotas*, then in bloom, were submerged, but looked none the worse for their experience when I returned a fortnight later. Doubtless the rapid percolation of the moisture through the sand prevents the bulbs suffering from these periodical immersions. A certain amount of cold is experienced in this locality, the tops of the mountains, which are not lofty, being often snow-covered in the winter, while, even in March, the temperature by the riverside in the deep kloofs at 2 and 3 a.m. appears to the human frame to approximate pretty nearly to freezing point, though, on the veldt above, the nights are genial. The river Keurbooms, the deepest watercourse in the district, in Kynsna, which may be ascended by boat for some miles, has, at certain periods of the year, its banks fringed with various coloured flowers of the Gladiolus and allied tribes, which are often literally overhanging the water, while the blue Water Lily is to be found in many of the rivers.

S. W. F.

LILIES.*

I THINK there is no more beautiful flower than the Lily. I would not say it is the most beautiful, but with the exception of the Rose I can scarcely name a flower which, in my humble opinion, can equal it. For what does constitute a beautiful flower? First, I would say form; second, colour; third, fragrance; and fourth, size. Now the first three essentials are conspicuous in all Lilies, and the fourth in some. No form could be more beautiful than that of the Madonna Lily or *Lilium Brownii*. No colour could surpass the delicate yellow shades of *L. Kramerii* or the lovely shades of colour in *L. speciosum rubrum* and roseum. All Lilies are intensely fragrant; some, indeed, such as *auratum*, are almost overpowering in their sweetness. As to size, what can surpass fine blooms of the last named or *Lilium giganteum*? Then, again, there is an almost infinite variety as to size and form of Lilies. We have the tiny Turk's-cap bells of *Martagon album* and the delicate cup of *Washingtonianum*, the splendid trumpets of *Lilium Harrisii*, neilgherrense, &c., and the grand expanded flowers of *L. auratum* and all the elegans and davuricum section, so that we have form, colour, fragrance, size, and variety all conspicuous in this exquisite flower. We have every right to call it a beautiful flower. There is also another recommendation as to Lilies, and that is duration of the flowering season, but of this I intend to speak later on.

As regards classification, I need not enter into this, as Mr. J. G. Baker, of the herbarium at Kew, has classified them in a clear and concise manner, sub-dividing the Lily family into five genera according to the formation of the flowers.

Concerning *Lilium giganteum* and *L. cordifolium*, I have but little to say. I have bloomed both, but only after repeated failures. In Bournemouth I find the bulbs throw up strong leaves and occasionally form buds, but just as everything seems to promise a beautiful spike of flowers the buds rot away, and the bloom is of course destroyed. I buy each year, at a cost of about £5s. to £1, the largest bulb that I can procure, but I have only bloomed *L. giganteum* twice. Often when I dig for the bulb to see what is the matter with it, I find that it has completely disappeared. There are, I am told, magnificent spikes of this glorious Lily to be seen in the garden of Holdenhurst Rectory, but I have not yet had the privilege of seeing them.

If I were asked to state what I consider the most beautiful Lily of all, I should say *L. Brownii*. The tube is very long, with an inner and outer envelope. The inner one is pure creamy white, whilst the outer one is a deep violet or chocolate. Long before the bloom opens the long violet buds are most beautiful. It stands quite erect, and till the bloom opens wide it is necessary to lift up the flower to see its beauty. It does remarkably well in Bournemouth soil. In the public gardens I have seen two flowers on one stalk, and this year I have had the same on two or three plants in my garden. I cannot too highly recommend this Lily. It is not expensive, as good bulbs can be bought for 1s. 3d. or 1s. 6d. There is one characteristic which I ought to mention. It is the easiest Lily I know to force or raise under glass, but then it somewhat loses its character. The outside envelope, instead of being deep violet, comes almost white—at least, this is my experience.

* *L. candidum* (the common white Madonna

* A paper read before the Gardeners' Mutual Improvement Society, Bournemouth, by John B. M. Camm, M.A.

lily comes next. This Lily is so well known as to require no description, but, alas, it requires a good deal of study to find out what is the cause of the repeated failures that one sees and hears of. In this hot, sandy soil I have utterly failed to grow it well, but in Dorsetshire I grew it to perfection. I had numbers of Lilies, with stalks bearing from twenty-three to twenty-five splendid flowers; but some disease of late has attacked these bulbs, and no one as yet can account for or remedy the disease. Some think it is only imported bulbs that are attacked, others think home bulbs are quite as liable to it as imported ones. I hope that some of the gardeners here present will kindly give the result of their experience in this matter. The disease generally manifests itself by attacking the lower leaves of the stalk, which turn a rusty brown. Then it spreads upwards and lastly attacks the bud. Our Lady's Lily is essentially a poor man's flower. It does best in the cottage garden, planted, it may be, under the eaves of the house, or close by in that charming little parterre one sees so often close to the house and principal walk, and which contains such a treasury of Old World flowers, Ranunculus, Lilies, Moss Roses, Alyssum, Peonies, all things left alone for years. Here you see the Madonna Lily grown to perfection. Nothing I wish for more here than the charming little gardens, for which we were so celebrated in Dorset—the gardens and the kindly welcome their owners always gave me. I have recently paid a visit to my old parish in Dorset, and there, in a poor carpenter's garden I found this Lily blooming to perfection. The carpenter is now old and broken down; he can no longer work, and the old lord who once owned the land has sold the estate; so he is very poor, but he has one consolation in summer at least. His little garden is full of flowers, first and foremost being Our Lady's Lily. It seemed to me so very appropriate and fitting and right that her Lily should bloom so well in his garden. She, too, when on earth was poor and the wife of a poor carpenter, and so her Lily ever blooms well in the gardens of the poor.

After *L. candidum* we have the numerous family of longiflorum, of which *L. neilgherrense* is the most beautiful variety, and Harrisii, Wallichianum and Wilsonii are beautiful varieties. The parent has been surpassed in beauty by all her children. We have also in this section the lovely variety *L. Kramerii*. This bears flowers of a beautiful pale rose or pink, and in colour it is quite unique; but I am bound to own I find it very delicate out of doors and hard to bloom. Perhaps no Lilies repay one more for our care and love than the

SPECIOSUM VARIETIES.

They are about the last to bloom, and coming up from the soil later in the year than the other varieties are less liable to check from frost and attack from grubs and insects. The most famous are Kratzeri and vestale amongst the album or white section, and Melpomene in the rubrum section. There is in this family also a most beautiful Lily called Henryi. It is in my collection, but I have not yet bloomed it. It is a very expensive variety, a good bulb costing from 15s. to £1. It is quite distinct, apricot in colour with brownish spots.

Of *L. tigrinum* I need not speak, as it is so very well known. It is strange, however, how many people confuse the davuricum section with these tigrinum Lilies. I have found in very good gardens *L. davuricum* or umbellatum labelled tigrinum splendens. Nothing could be more distinct or different from one another than these two families. *L. tigrinum* bears its seeds or small bulbs on the

stem of the plant, and is, with the exception of *bulbiflorum* and one or two others, unique in this respect.

L. elegans, or *Thunbergianum*, *davuricum*, *Batemannii* and *croceum* are generally the first to flower. The last week in May generally finds many of these in full bloom. These Lilies make our borders very gay, and as they are exceedingly cheap and increase very rapidly are very valuable. The

TURKE'S-CAI LILIES

are a most beautiful family. The flowers are, of course, small, but are numerous on the stalk and most graceful. The best are *M. dalmaticum*, the darkest Lily grown, *M. album*, the beautiful white Martagon Lily and *Hansonii*, the golden Martagon. This last is a most lovely Lily: it is very hardy and healthy. I have had in my garden from what was originally one bulb five stalks, all bearing numerous flowers of the brightest gold. Then there is *chalconicum*, the scarlet sealing-wax variety, with foliage more like grass than leaves. The earliest *Lily* to bloom in my garden this year was *M. pomponium*, very like in form and colour *chalconicum*. Martagon Lilies resent being moved, and require to be established before doing well. To this section belong *pardalinum* and *monadelphum*. *Szovitsianum*, a most lovely variety. The flowers are beautiful, citron in colour, spotted black, and are very fragrant. Martagon Grayi is also a fine hardy variety. *Testaceum* or *exclusum* is also valuable, bearing flowers of a soft nankeen colour, pendulous and in clusters.

CULTIVATION.

My experience points to one thing which I cannot too strongly insist on, viz., that Lilies do best when protected in some way by other plants. The *beau ideal* of a spot for the Lily is amongst Rhododendrons or Azaleas, and to a certain extent the soil that suits Rhododendrons will suit most of the Lilies. The American plants protect the young growth of the Lily, at the time it most requires this aid. There are certain Lilies, such as *pardalinum*, that require a marshy soil, and as they rarely get it in an English garden, they do not do very well with us. The safest and surest way of growing Lilies to ensure their blooming, is to grow them in pots and to plant them out in the garden when their bloom buds are formed. As to soil, the Lily likes it light, rather sandy and peaty. No manure is necessary, and some good growers consider it even injurious. Mr. G. F. Wilson, of Heatherbank, Weybridge, one of the largest and most successful cultivators of the Lily in England, assures me he never allows any manure to come near his bulbs. Lilies also like plenty of water at their growing stage. When the corin or crown of the Lily appears above the surface of the soil, it is a proof that the soil is exhausted and that the Lily requires replanting. One of the golden rules to be observed in Lily culture may be expressed in the old Latin motto "Quieata non movere," which may be freely translated, "leave well alone;" do not disturb Lilies unless positively obliged to do so. No plants resent removal more than Lilies. Another rule is patience. We must exercise patience however hard it may be to do so. Lilies will not be hurried, they must have time to get established, and as long as the soil is good and suitable, and the longer they are left there, the better they thrive. As to planting, Mr. Wallace, of Colchester, recommends us when planting to place a lump of peat at the bottom of the hole, plant the bulb on it and then cover it with an inch of sand, after that fill up with a good rich compost. He says the

Lilies root more easily in the peat, and the sand preserves the Lily bulb from excess of moisture caused by heavy rains. The great enemy to Lilies are slugs, there is something particularly attractive to slugs and snails in the soft juicy stem of the Lily.

I do not find any Lily more difficult to grow and flower well than the fine old candidum or Madonna Lily. This Lily appears to love a sun-burnt position under the eaves of a cottage roof, where it is left alone and even baked by the sun, and at the same time protected from violent winds. The easiest Lilies to cultivate with me are the beautiful Browni, the Martagon, and the speciosum families. *L. auratum* will not live, it dies away after one year, and must be replaced each year. The longiflorum section at Bournemouth I find very difficult to bloom. But no one who loves Lilies will be dismayed at difficulties or even repeated failures. They are such exquisite flowers that they repay us for any attention and pains and labour even if many of them never flower. One of the great attractions of this lovely flower is the length of time over which the Lily blooms. Well-established clumps of *davuricum* and kindred sorts may be seen in flower in the middle of May, *L. pyrenaicum* (the yellow Martagon) sometimes even before this, and good blooms of *L. speciosum* album and rubrum may be found in October. The Rose alone surpasses it in the duration of flowering. Another quality which commends it to the attention of the florist is the beauty of its foliage. Many plants are grown for their foliage alone, such as Fuchsias, and some of the Lilliums almost equal these in the beauty of their leafage. What, again, can be more encouraging or more delightful than in early spring to see the Lilies pushing their heads up above the soil. Nice fat sage-green or russet heads which give such an earnest promise of the beauty to come, or, at least, we hope so. We may be deceived; maggots, slugs, and snails, and all the numerous enemies to the Lily may wreck our hopes in one night—nay, in one hour. Still we hope for the best.

GARDEN FLORA.

PLATE 1093.

PASSIFLORA EDULIS.

(WITH A COLOURED PLATE.*)

The subject of the coloured plate is so much grown and appreciated as a decorative climber for lofty conservatories and such-like structures, that it is difficult to ascribe a reason for its comparative neglect as a fruit-producing plant. Such it certainly is, and of a very high order too, bearing enormous crops of most luscious fruits, which are a valuable addition to the dessert. Its culture is of the simplest, for given an intermediate temperature, light, sweet, friable soil and ample space, together with ordinary attention to watering, healthy plants, fine foliage, and bloom in abundance will result. These conditions must be somewhat modified to ensure fruitfulness as well. Reasonable confinement of the roots and fertilising of the blooms are imperative, and if planted in sunny positions, slight shade is beneficial, especially while in bloom. It is necessary to check over-luxuriance and to artificially fertilise the blooms, for unless this is done the probability is that no fruit would set. It is

* DRAWN FOR THE GARDEN BY H. G. MOOD FROM FLOWERS SENT BY MR. J. ROBERTS, TAN-Y-BWCH. LITHOGRAPHED AND PRINTED BY J. L. GODFART, SUCCESSOR TO GUILLAUME SEVEREYNS.



important to guard against bright sunshine prior to setting, as well as to shield the young and tender embryo fruit from the fierce rays of the sun. As far as I know, there is no special mode of pruning more adapted for fruiting than another; merely thin and shorten the shoots according to space available, avoiding crowding. The summer routine will be pinching the shoots when two, three, or more fruit are set, according to the strength of the shoots and the crop intended, cutting well back any non-fruited ones, which will—if early in the season—probably make fruitful breaks and produce a crop later. Water should be applied sparingly until a good set is secured, when copious supplies of both clear and liquid manure must be given to swell up heavy crops, and a sprinkling of some approved

P. edulis requiring less heat and being much superior in flavour.

J. ROBERTS.

THE WEEK'S WORK.

FRUIT UNDER GLASS.

FIGS IN POTS.—The trees having now lost their leaves should be examined to see if there are any insect pests hiding in the crevices or attached to the bark. Both white scale and mealy bug are often very troublesome, the former in particular, as several dressings are needed to rid the trees of them. If taken in hand as soon as the leaves fall off, the old wood may be well scrubbed with a brush and soft soap water, after which it may have a dressing of some well-tried insecticide. Care must be taken in cleaning the current season's growth, or the young figlets attached thereto will be seriously injured, and instead of developing when the trees are put into the forcing house, they will drop. If the young wood is washed with a soft painter's brush, no harm will be done to the embryo Figs, particularly in this early stage. If the trees have been infested with mealy bug, the walls, glass, and wood-work of the house in which they have been grown should be thoroughly cleaned, as it is necessary to clean the trees and then return them to a house where there are no signs of these pests. When the plants have been thoroughly cleaned, potting should receive attention. There is nothing gained by using over-large pots, for if the plants receive proper attention during their growing season in the way of feeding, pots from 15 inches to 18 inches in diameter will be ample for good sized bushes. When too much root room is allowed, the plants often make gross long-jointed wood, which is too sappy to be fruitful. Before potting, the balls of earth attached to the roots should be thoroughly soaked. That there may be no doubt about every particle of soil being moistened, turn the plants out of their pots and stand them for a couple of hours in a tub of water. When saturated they should be taken out to drain till sufficiently dry to be conveniently handled. It is a great mistake to attempt potting if the balls are in the least dry as it will be difficult to moisten them afterwards. Do not attempt to remove any of the old soil except on the surface, which may be taken off before the plants are put into the water. The roots should, however, be loosened with a pointed stick, and all crooked ought to be removed. Quite clean pots ought always to be used, and these should be large enough to admit of a 2-inch or 3-inch shift all round the old ball. For instance, plants that are well rooted in 12-inch pots may be put into 18-inch ones, while those in 8-inch pots can be transferred to those of the first named size. The compost used should consist of good loam and lime rubble, to which may be added some crushed bones. The soil when used ought to be moderately dry that it may be made firm, otherwise the water will pass through it too freely. Figs, as we all know, make large leaves; therefore ample room should be allowed between the shoots for the light and air to be freely admitted, but if former directions have been carried out very little pruning will be needed. It may, however, be necessary in some instances to thin out the shoots a little; these prunings can be saved for cuttings, as it is always advisable to keep up a stock of young plants. Plants that do not require repotting should have the surface soil removed, replacing this with a rich top-dressing, and making it as firm as possible. The trees may then be re-arranged, keeping the smallest ones together, and allowing as much space to each as possible, that there may be no undue crowding when they have put forth their leaves.



Fruit of *Passiflora edulis*.

fertiliser may be added occasionally—in fact, freely, but judiciously.

Thrips is the only insect pest which habitually affects the plant, and for this pest, fumigation is the best remedy. Propagation is easy either from cuttings or seeds. I have all the back walls of vineeries clothed with it, and the plants annually carry heavy crops of fruit, and I have also a very old house, flat, dark, lean-to, with more wood than glass, in which, trained to the roof, it thrives well, bearing three crops a year. Better results would ensue, no doubt, in modern, well-lighted structures, but these instances prove its accommodating nature. The fruit shown in the plate lacks the usual depth of colour, but the specimens sent were the earliest of the season, grown under the dense shade of Vines and Strawberries—a thick canopy. *P. quadrangularis* is not grown here,

causing a long-jointed, sappy growth, while a light, shallow one has the opposite effect. Where the soil is cold and heavy, the borders in which the trees are growing should be as shallow as is practicable, and the roots so restricted that they cannot penetrate the cold, ungenial subsoil. Drainage in such places is a most important consideration, for whenever the trees commence to make long joints it is a proof that their roots have gone beyond due bounds. When it becomes necessary to lift such trees, care must be taken not to mutilate the roots more than can be avoided. The soil beneath should be made as firm as possible to prevent them from going down, while plenty of water should be given with that in which the trees are planted, to allow the water to pass away freely. When these things have been attended to, the trees may be trained to the walls or trellises, and the house made ready for starting. But little water will be needed during their dormant state; the border, however, in no case should be allowed to get dry, or the first crop will in all probability fail to swell. The house should be kept open night and day in mild weather till forcing commences; frost, however, must be excluded, as the young figlets being tender would be seriously injured were they to get frozen.

TREES ON WALLS.—The first sharp frost will have brought the leaves of these to the ground. Where it is necessary to lift or root-prune, the work ought to be proceeded with without delay. The shoots should afterwards be liberated from the walls and thoroughly cleansed before frost sets in, as it is far better to do all such work at this time of the year than in spring, when the young figlets and buds are swelling. In many places it is necessary to protect the growth during winter. Protection should, however, be denied as long as possible that the shoots may get hardened previous to being covered. In some places in the south Figs grow exceedingly well. Even in the most severe winters but little injury is experienced, though the bushes remain unprotected. Such, however, is not the case in the midlands and more northern counties, where the frost, though perhaps not more severe, takes greater effect on the plants, owing to the wood not being so well ripened. In those districts successful cultivation of the Fig in the open requires much care and forethought, for it does not do to run any risk or failure would be the result. Good crops are, however, obtained in some places, especially where the soil is suitable.

PLANTING.—Those contemplating planting hardy fruits should push the work forward as quickly as possible that all may be completed before frost sets in. In the case of the Fig, however, I would not advise planting in the open till spring, for as plants may usually be procured in pots, there would be less risk run of them suffering should the winter be severe, and as the Fig is late in making a start, there would be no advantage in planting in the autumn. Plants may, however, be procured and readiness to be planted whenever it may be found convenient to do so. There are many good varieties of present introduction, amongst them being St. John's, Negro Largo, Grose Verde, Pingo de Mel and Violetta Sapor. There are, however, many good older varieties worthy of cultivation. This being so, it is advisable where there is room to add the new kinds and test their merits before doing away with any of the others.

H. C. PRINSEP.

KITCHEN GARDEN.

DIGGING.—Up to the present digging has been left in abeyance in consequence of the wet state of the ground, for, though some soils may not suffer when wet, these are very hard to find, and in most gardens drier weather than we have had is a necessary condition for all ground work. At the same time, certain of our crops, such as Peas and Onions, succeed best on ground made ready to receive them some months in advance of sowing, and the first opportunity should be taken of preparing for them. For Peas the ground had better

be double-dug and most of the manure buried in the bottom spit, but for Onions I like to keep the manure nearer the surface, and am content to grow them on plain-dug land, especially where this has been trenched or double-dug within recent years, or where the crop is to follow Celery, which has been grown on the close-planting system that I have recommended. Onions enjoy plenty of well-rotted manure, and I always contrive to give them as much as can be buried in digging, and, to provide for this, I am careful to have a wide space between digging marks at the end of the plot where digging is to commence. This preparation should be at least three spits wide, as the best of diggers cannot prevent gradual closing up as work proceeds, and, unless a good start is made, the whole space is closed before the end of the plot is reached. I alluded above to the Celery ground, and I find that this is one of the best positions that can be selected for Peas or Onions. I do not recommend simply levelling down the ridges and leaving the ground without further digging for the successive crops, as I find it pays best to dig all through after levelling, this certainly leaving the whole plot in a more satisfactory condition, besides preventing an irregular settlement.

TRENCHING, &c.—By this time plans for next year's cropping should have been thought out, as a little timely consideration in this way saves trouble and, perhaps, perplexity in the busier season of spring. For trenching and double digging much time can but seldom be spared, but the wise gardener will certainly have a portion, small or great, of the garden under his charge treated in one of these ways, whichever is best suited to the depth of fertile soil in the garden, as it is only by doing such work piecemeal, a little each winter, that one can keep pace with other work and still gradually improve the soil at the same time. Cautions are sufficiently being given as to the dangers of bringing up bare trunks of the crude subsoil to the surface, but this is still being done by many who have only half learned the value of deep cultivation and who ruin the surface soil in consequence. On the whole and for the vast majority of gardens, double digging or bastard trenching is the best method to adopt, as by this the sub-soil is broken and enriched without injury to the surface soil. Trenching, however, is a valuable operation where it can be carried out with safety, and when the brain as well as the spade are brought to bear on the work. Another method, viz., ridging up for the winter, is beneficial to some peculiarly constituted, heavy soils, but no soil should be ridged while wet, and I think that for most old gardens ridging may well be dispensed with entirely with advantage. The nature of a soil is only to be learnt by experience, and I would strongly urge any young gardener, who has taken charge of a garden on a soil to which he has not been accustomed, to adopt at first the methods which have been applied customarily to the soil, rather than to rush to other methods which may, or may not, be satisfactory; leaving these for future experiment, or carrying them out on a small scale at first, for soils vary immensely, and some may be easily and quickly spoilt for the time being.

CARDONNS—These are more tender than most of our winter vegetables, but they can, fortunately, be stored and kept in good condition for a long time, and I advise that as many as can be found room for in dry and cool, but frost-proof quarters shall be lifted when they can be caught dry and removed to such a place. An open shed even can be used as a store house, for this will at least keep them dry, and they will not be subjected to alternate freezing and thawing, for frost may be kept from them by the use of any protective materials. Dry Bracken, which is light and convenient, suits us well as anything. I lift and stack the plants closely together without removing the hay bandages, and in an upright position, as I find that the plants keep better so than when laid down and packed one above the other. A few of the backward plants may be left in the open ground, as these will go on

growing while the weather remains mild, and the experience of the past few seasons has been that no frost has come to hurt them up to Christmas, though no dependence can, of course, be placed on this. The growth is this year more tender than usual, but if frost does come, sharp enough to injure them, they could be used for present supply and the stored ones kept.

GLOBE ARTICHOKES.—Protection of some kind must be kept in readiness for these, but I avoid its application as long as I dare, for, being in the open, any material used is liable to get wet, in which condition it does far more harm than good. Something may, however, be done at once towards preparing to protect, and that is to arch over each stool three or four fairly stout pieces of Willow, Hazel, or any other easily bent stick. These should be long enough to keep the covering material well above the plants, and the ends may be driven into the earth at the stools. I am aware that sticks are any other means of keeping the covering from direct contact with the crown are seldom used, but they are easily applied, and my experience is that plants so treated winter much better than those which have the Bracken or litter packed directly round and on to them. Of this I had ample proof in the spring of last year. Whatever is used for protection should be replaced by a fresh supply whenever it gets soaked with rain, a wet covering left on all winter being more harmful even than a severe frost.

HORSERADISH.—With the soil in good order it is immaterial at what part of the dormant season Horseradish beds are made, and the work is frequently left till after the new year, but in those gardens where there is a fixed and very limited staff it will be taken advantage of the present slack season to get all such work done. A neglected plot, for even such a hardy subject as Horseradish never pays, as the roots become tough and do not swell to a useful size after they become thickly matted together from having occupied the ground too long. In our light soil I do not find that planting on the horizontal method, laying the sets only a few inches below the surface, as practised by some growers, is satisfactory. I get the best results by digging deeply, burying a good quantity of manure some 18 inches deep, and then planting straight and clean pieces of root with a dibble which nearly reach the manure. By these means I obtain healthy roots which may be used with very little waste.

ENDIVE.—After this date very little growth will be made outside by the latest batches of Endive, so it will be well to store all for which room can be found directly the plants can be caught in a dry state. Any growing weather which may occur after the plants are stored will not be wasted on them, as they will set up a slight root action which will keep them on the move and prevent decay from setting in early, as it would and does when storing is put off so late that growth is completely arrested. For the late plants I find room in a Cool Peach house, and here the plants are laid in or planted thickly on the border, and a little protection is given in the sharpest weather by laying dry mats over them. I described my method of treatment when and after storing, in my notes for October 10, and follow the same lines with the present lot. I do not break the surface of the Peach border to provide loose soil for packing round the plants, but have sufficient soil wheeled in for the purpose, and as the roots of each row of plants are covered, the soil gets a thorough soaking of water, but none of this is allowed to get into the hearts or between the leaves. Neglect of this watering result in tough and fibrous plants, that are of but little use in the kitchen or the salad bowl. Endive for salads should be perfectly blanched, and this takes longer at this time of the year than it did in warmer weather.

SUNDRIES.—The ventilation of frames in which vegetables are growing or stored must be well attended to; neglect of this will soon spoil the growth. Parsley becomes drawn and useless in a very few days if kept at all close, and this applies also to most things, though with some the injury

is not so soon apparent. A general shutting up every night should not be allowed, though it is often attempted, with very little regard to the state of the weather at the time, after the first frosts of winter have come. Lettuces in frames should be kept free from decaying leaves, and Cos varieties should be tied up to blanch as required, while Cabbage varieties, as I recommended, on a gentle hot-bed, should be kept growing in the gentlest possible manner by adding to the linings now and then just sufficient fresh material to create fermentation, but no more. Stores of outdoor Tomatoes still being ripened up in warmth must be looked over frequently, and any fruits showing the least signs of decay must be thrown out as decay spreads fast through a box or shelf of fruit. For the kitchen there stored fruits are useful, as they may be eaten out of season without coming too hard on the winter fruiting plants; but they should no longer be sent to table for salad.

J. C. TALLACK.

KITCHEN GARDEN.

POTTING CAULIFLOWERS.

One can never prophesy as to the weather, and with the experience of 1895 before us, it is well to take measures for the protection of Cauliflowers. I find no better plan than potting the plants singly and wintering in as cool a place as possible. I am aware the potting up of Cauliflowers is not general, and I admit to grow the plants to the end in pots requires space and more attention than can often be afforded them. For this purpose I prefer a good strain of Dwarf Early Erfurt or Walcheren, the forcing varieties at times come too small with pot culture, and the later kinds, of which Pearl and Autumn Giant are types, though large, are not early, and I do not think them so suitable. As to the advantages of potting in October or early November, not only for stock for spring planting, but for forcing, my experience is that pot plants have several advantages over those in boxes or pricked out into frames. The chief point in time is, and when the plants are pricked out into boxes, the lifting so checks the plants that it is necessary to give every attention to get them to take hold of the soil. The same remarks apply to frames with even more force. Pot culture tends to dwarfness, and the plants can be readily moved if required. Doubtless many cultivators will think pot plants at this season unnecessary, and fancy by sowing in heat equally as good results may be secured. Such is not the case; indeed, I go further and assert that plants sown in heat give more trouble, are later and not always reliable. I certainly advise sowing in cold frames for succession if plants are scarce or a small Cauliflower is needed. For sowing in January or February few varieties are superior to Snowball. I find it more difficult to grow these early-sown plants from start to finish under glass, as they button so badly and many are lost. I have rarely failed with autumn-sown plants of the varieties named, grown as described. I am aware many are by too early sowing, too early potting, and too kind treatment afterwards. I do not like a large plant. Those which do best are those which continue growing all the winter. If sown during August, according to the locality, there is good material for potting at this date. To get a dwarf growth too rich soil is necessary; it is advisable to use a good portion of old mortar rubble or wood ashes if the loam is of a clayey nature. Pot firmly and give one good watering. Little more is needed through

the winter if the plants are plunged, as is advisable. I plunge in fine coal ashes well over the rim of the pot, and store in cold frames, well protecting in severe weather with dry Bracken or other materials. After a prolonged frost it is necessary to allow the covering to remain over the plants till thawed, and for a time to shade from bright sunshine. This allows the plants to get into a growing condition without loss of leaf. Planting out is done at the end of February in a warm, south border, and there are good heads in May. In planting, rich soil, care in planting not to injure the ball of roots, and high moulding up afterwards are essential, with ample moisture. Food also in the way of a good fertiliser is well repaid. Others may have convenience to grow on in frames, not planting out as advised. I used turf pits with movable sashes at one time to great advantage, being short of frame room.

G. WYTHES.

July-sown Carrots.—For years I have made it a rule to sow a good piece during the early part of July, always finding the roots useful to draw in a young state. At the present time (October 20) I have a grand lot. These were sown in sand that had been worked very deeply to plant Strawberries in. After the Strawberries were planted, drills were drawn, one between each row of Strawberries, and the Carrots sown, although the weather was dry. After a watering they soon came up and grew very fast. I find Model a good to suit us at this time of year.—J. CROOK.

Late Runner Beans.—These are valuable in a season like the present when Peas were earlier than usual. The absence of frost up to the middle of October has allowed the very late crops to give good returns. For many years past I have made one or two sowings in July in a sheltered situation, and by so doing I often have had Beans very late. Recently I observed, when at Farnboro' Hill, a long row growing up some short stakes in a sheltered spot in full bloom, and also bearing a good quantity of nice young, tender Beans. A few days later when looking over the gardens at Hackwood Park I observed several rows of these in full bloom growing on the ground, and on asking Mr. Bowerman if these were satisfactory so late in the autumn, he said he found it a good method to sow them as a catch crop after early Potatoes, as he had to supply Beans the whole year round, and often found these come in useful. They are easily covered when grown in this way should severe frost come early in the autumn. Where a continued supply of the best vegetables has to be kept up sowing these catch crops has much to recommend it. I find dwarf Beans, sown close to the glass of warm houses after early Potatoes come off, continue bearing very late in the autumn, and they are easily protected from frost.—DORSET.

Runner Beans.—I cannot understand the desire to pinch runner Beans so as to keep them dwarf except on the market grower's plea of necessity. But even at the best he never obtains anything like such good crops of full, clean, straight pods as are got from well-staked and well-grown plants. The suggestion that runners, grown because they are runners, should be pinched into dwarfs in private gardens, where stakes can always be furnished, is absurd on the face of it. As to the suggestion that such plants are best protected from early frosts, would it not be better to make a late sowing for that purpose against a tall fence or wall, as is frequently done, and then when frost was imminent, hang nets over them over the face at night? But experience shows that early white frosts often do more harm now than the ground than higher up, where more and drier air is circulating. This autumn runner Beans were enabled to literally fruit themselves to barrenness and everybody was tired of them. I hope some day we shall see the rule prevailing of gathering the

pods when much younger and boiling them whole, not allowing them to become of great length and size and slicing them into scores of pieces. The Beans gathered from dwarf plants in the fields and sent to market are invariably too old and when cooked flavourless.—A. D.

Bet Cheltenham Green-top.—The value of this variety of Beet has long been known to experienced gardeners, and at the Chiswick trials it appears to have given great satisfaction. Its history is not generally known, and although I can supply some portion of it, there are still points to be cleared up. Quite recently I saw it growing among fruit trees at the Violet Nursery, Tewkesbury Road, Swindon, near Chippenham, and there learnt that Mr. J. Smith, the proprietor, was the first to show its value and bring it into prominence in this country, being also the means of preserving the stock from total extinction. Many years ago when on a trip to the Channel Islands Mr. Smith saw this distinct variety of Beet growing in Jersey, and also tested its qualities when cooked. Recalling "a good thing" he purchased twenty roots for seed and was successful in growing a good supply. Two or three years later the Jersey grower wrote to say he had lost the whole of his stock and Mr. Smith was able to start him afresh with it. It appears that other market growers, of which there are large numbers round Cheltenham, chaffed Mr. Smith with his new variety of Mangold, as they did not believe it possible that a variety of Beet with a green top could have a root blood-red in colour, but they were not long in arriving at a different conclusion, and now-a-days they rightly estimate its value. If the true stock is grown the roots are not coarse, while the colour and quality are invariably second to none. The soil in Mr. Smith's cultivated orchard is a sandy loam and suits Beet well, a good root forming without much top.—W. I.

Tomato Duke of York.—When looking through the houses of Longford Hall quite recently I was impressed with the handsome appearance and good cropping qualities of this Tomato. Mr. Ward, the head gardener, considers it to be one of the best varieties that has come under his notice, and as Tomatoes are in demand the whole year round, he has grown it for furnishing the winter supply. The plants are grown in a long man-roofed house, which has two divisions. The front has a sharp pitch, calculated to catch every ray of sunshine, with which the inhabitants of this neighbourhood are not overburdened at this time of the year, Longford being situated in Stretford, a suburb of Manchester. In the one division the plants are carrying a crop, the majority of the fruits of which are ripe and ripening, and in the other division the fruits are in various stages of development. The plants are set out in narrow borders of loamy soil made up near to the front walls, and are trained up under the roof on the single stem system. They are short-jointed, and the fruits are abundantly produced. I think it is the most brilliant coloured Tomato I have ever seen, the colour being a bright glossy scarlet, and flavour is first-rate. There are several varieties that surpass it in point of size. Duke of York is but medium-sized, but this is an advantage rather than otherwise, as such fruits are generally speaking the most serviceable for private use. At the time of my visit the most forward division of the house presented a very attractive appearance; the fruits, depending from and being so evenly distributed, as they were all over the trellis, formed quite a feature in the gardens at this dull season. I should have mentioned that both divisions of the house in which the Tomatoes are grown are well heated.—A. W.

Cheep Tomatoes.—Those who live in the midst of fruit or vegetable-producing districts do not invariably obtain their supplies at cheap rates. It is not unfrequently happens that nearly all that is really good is sent away to markets at considerable distance in large quantities, inferior produce and foreign stuff being sold locally. At Evesham this does not appear to be the rule. Nowhere else in the kingdom probably are so

many market gardens grouped together, these being continuous as far as the eye can reach from a vantage point. The vegetables and fruit so extensively and well grown about Evesham have the reputation of being superior in quality, and are readily purchased in the Manchester, Sheffield, and other large markets. I should not have been surprised, therefore, to have discovered that Evesham townspeople did not fare any too well, but found that fruit and vegetables in season could be bought cheaply and good by them. On market days public auctions are held in the wide open street leading to the old market place, and I never saw good produce sold more quickly or at lower rates. Several flat closely-packed baskets of Tomatoes were exposed prior to the sale, and I noted that the fruits were of the usual Evesham type, being large, corrugated (it is a Potato-leaved form), sound, and well coloured. Some went for 1d. per pound, others fetched a trifle more. This happened in early October. Doubtless they were grown in the open air, but the fruit was well ripened. House-grown fruit, such as we see marked up at 6d. per pound elsewhere, was selling in the best state at 1d., and other fruit, notably Grapes, was unusually cheap, good Black Hamburgs selling retail at 10d. per pound.—VISITOR.

NOTES ON PEAS.

The following Peas I have found the most useful in their respective seasons. Amongst the early dwarf Peas are William Hurst, American Wonder and Chelsea Gem: these are all good and very prolific, the last-named having much longer pods and larger Peas. I do not care very much about these dwarf varieties; they are not so conveniently gathered, and during heavy rains get battered about and made very dirty. It is a good plan to lay a little litter between the rows to keep them clean. William I. is a useful early Pea. Veitch's Selected Extra Early I have grown several seasons, it doing well in this garden. Two years ago three quarts of seed were sown, from which 18 pecks of Peas were gathered. Good mid-season varieties are Duke of Albany, Stratagem, Dr. Maclean, Ne Plus Ultra and Veitch's Perfection; the last, one of the best-flavoured Peas in cultivation, but it seems to have a rather delicate constitution, as only in some seasons does it flower. Ne Plus Ultra is a late variety. It is a Pea that can be gathered over a long period, as it keeps on producing Peas which do not get old nor so soon as those of many varieties, and the flavour is first-class. Sharpe's Queen is a good late Pea, having long pods well filled with large Peas. The old Omega is yet a good one for late work, for, though small, the Peas are of good colour and flavour when cooked.—J. S. UPEX, Wiggonthorpe, Yorks.

The best early Peas are Exonian, William Hurst and American Wonder. One of the best mid-season Peas I find is Duke of Albany. It bears an immense pod and is first rate in flavour, though not such a heavy cropper. The Stanley, a wrinkled Pea, is a very good Pea for sowing to follow early sorts. It is a dwarf grower, a good cropper and of good flavour. For late use I find none to beat Dr. Maclean. The best flavoured late Pea is Ne Plus Ultra, but its great height is a disadvantage in exposed gardens. Walker's Perpetual, a good old variety, comes in very useful as a late variety.—C. W. LYNES, Downhill Castle, Co. Derry.

My favourite early Pea is William Hurst. I prefer the early dwarf Marrows to the hard-seeded rounds, and the difference in point of earliness is only a few days in favour of the latter. Moreover, the early Marrows keep in bearing condition without loss of quality longer than the early rounds. For a very early Pea, Kinross Gold is a very good early round. Gradus, a Pea of good quality, to follow William Hurst. Duke of Albany also forms a good early round, but it turns in quickly, and to follow this, Criterion, a grand Pea of a most excellent quality and with a good constitution. Veitch's Perfection, grown upon a soil that

suits it, is a grand Pea of most delicious flavour. It does well at Witley. Maincrop is another fine Pea with a good constitution, and, considering the season, has done well. Autocrat is a fine Pea and should be grown in every garden. Where room can be spared, the old Ne Plus Ultra should find a place. It does well here. If I were bound down to three Peas they would be William Hurst, Criterion, and Autocat at; and to six, I should add Gradius, Veitch's Maincrop, and the Ne Plus Ultra. Veitch's Perfection I hardly like to leave out, and where the soil suits it I should advise growing it.—*J. Young, Witley Court, Stourport.*

— I have this season grown most of the novelties, and although the season has not been favourable for a fair trial as to productiveness or quality, I can recommend the following as distinct and good varieties, viz., Sutton's Favourite, Early Giant, Duke of York, Ebor, St. Duthus, Veitch's Exonian, William Hurst, The Duchess, Duke of Albany, Magnum Bonum and Omega.—O. THOMAS, Royal Gardens, Finsbury.

— Although I have grown nearly all the new varieties of Peas, I still rely on the good old sort Ne Plus Ultra for the main supply. Amongst the best dwarf sorts of the earliest section are Excel-sior and Chelsea Gem, while amongst the later sorts, Bountiful and Exonian are amongst the best. Of the second early and late 3-foot sorts, I have found Echo and Sharpe's Queen as good as any I have tried.—C. WEINSTEIN, *Gordon Castle, Fochabers, N. B.*

— I generally prefer to grow the older and more proved varieties, so cannot say much about new varieties, except one or two. Sutton's New Marrowfat was one of the best, and was one of the heaviest croppers I ever had; the flavour also was excellent. Webb's Senator was almost as good in every respect, but the dry season was against it. Masterpiece (Haywood's) is a heavy cropper, pods and Peas fine. Amongst the older varieties, William Hurst and The Stanley; for dwarfs, William L. and Exonian. Dr. McLean, Magnificent, Sharpe's Queen, Superabundant, The Duchess, Laxton's Supreme, Autocrat and Walker's Perpetual Bearer are about the best I have grown. Strategem is a fine flavoured and large Pea, but does not crop very heavily here.—GEO. RENSHAW, *The Gardens, Wrotham Park, Kent.*

— In reporting on the varieties grown, one must not forget the old favourites, and I must name as being among the best grown this year Chelsea Gem, William Hurst, Dr. McLean, Nelson's Vanguard and Ne Plus Ultra; these being already so well known, further comment is unnecessary. Of newer varieties grown here, and which I am taking according to their season, Gladiator proved to be an excellent cropper, well worth growing as a second early. Sutton's New Marrowfat was grand in every way, as was also Gradius. Veitch's Main-crop, which succeeded these, did not do itself justice, not from any fault of the Pea itself, which I took to be the most valuable and best mid-season variety, a continuous cropper, fine in pod and in flavour, but it got a bad attack of thrips, which spoiled most of the earliest pods. It is saying something in its favour, however, to say that it got over the attack and produced an excellent crop. Grand Peas, too, are Duchess of Edinburgh and Goldfinch, both of the Ne Plus Ultra class. Autocrat bring up the rear and promises to be as good as usual. I have more than once praised it in THE GARDEN as being the best late Pea I know.—J. C. TALLACK.

— After repeated trials, I find the following varieties to be the best. For early crops, Chelsea Gem and Exonian; second early, Veitch's Perfection, Duke of Albany, Telegraph and Dr. McLean; and for late crops Autocrat and Ne Plus Ultra.—JAMES TULLY, *The Gardens, Ampont House, Andover.*

— Amongst early Peas, I have found Chelsea Gem, English Wonder and Sutton's Early Giant especially good, whilst for midseason I prefer The Duchess, Daisy and Criterion, with Autocrat and Ne Plus Ultra for late crops. A good old mid-season variety is Veitch's Perfection, hard to beat

for quantity or quality.—WM. POPE, *Highclere Castle, Newbury.*

— The two best early Peas for cropping and which are Exonian and Daisy. The true Exonian with me grows over 5 feet high, and the crop is very heavy. Daisy is nearly as early and the best cropping Pea I ever saw. For midseason, Duke of Albany, Telephone and Autocrat are the best; for late, Ne Plus Ultra and Strategem are all I require.—W. C. LEACH, *Albury Park Gardens, Guildford.*

ORCHIDS.

VANDA CERULEA.

THIS fine Orchid is yearly becoming more popular, and little wonder, for it is one of the most beautiful kinds in existence, and under fairly good management is easily grown. It is essentially an Orchid for country districts where

thing goes wrong, and it will be difficult to bring the plants again to health. With regard to the treatment of the roots, this is very simple, and does not vary much from that given the usual run of distichous-leaved Orchids. I do not care to give a very large receptacle, and have had many fine plants in baskets about 5 inches across. The roots in fact seem to delight in being crowded closely together, and if there are a few of the new ones extending themselves freely in the atmosphere, so much the better. This will show that the latter is congenial to them, and when rebasketing again becomes necessary and these are covered with compost, their fresh ramifications in the latter will add considerably to the strength of the plant. Sphagnum Moss will be the principal ingredient in the compost, and in renewing this allow no old and sour stuff to remain about the roots, and use the new Moss in a clean and living state. Introduce abundance of rough crocks



Vanda cerulea. From a photograph sent by Mr. John Gordon, Miramar, Exmouth.

pure atmospheric conditions exist, the blossoms always being of a much better colour than in the vicinity of the metropolis and other large towns. The place to grow *Vanda cerulea* is an airy, light house where the heat in summer never rises above 80°, and, as has been recently described by a correspondent in THE GARDEN, it is well adapted for cultivation in vineryes. For several years in the south of England I grew this *Vanda* in a mixed house of Orchids close to a roof ventilator that was never closed in summer and only during frosty weather in winter, and I may say I never at any other time had such good results, though the plants were old established specimens and not recently imported. A constant supply of fresh air is a humid atmosphere, and a good light are the conditions under which it will thrive. In a very hot, moist, and shady house it may go very well for a time, but eventually some-

and charcoal and fix the plants firmly, give plenty of water while growing and keep cool, and a little on the dry side during the resting season.

Mr. John Gordon, Miramar, Exmouth, whom we have to thank for the photograph from which the illustration was prepared, kindly sends us the following note concerning the plant:—

On referring to vol. xlvi., page 145, I find that the treatment there given for growing *Vanda cerulea* is identical with that which I have followed. This *Vanda* grows well on the same stage with *V. suavis*, *V. tricolor*, and *V. Patersonii*. Every season the Sphagnum is entirely renewed, fresh charcoal and crocks being liberally intermixed with the new material. Abundance of water keeps the Moss vigorously growing. The flower-spikes respectively measure 19 inches and 24 inches in length and the majority of the blooms

are each $\frac{3}{4}$ inches across, colour a rich dark blue. My plant, which was imported about two years ago, retained its beauty for seven weeks.

LELIA AUTUMNALIS.

A GOOD stock of this handsome *Lelia* is of great value in keeping up an autumn and early-winter display of flower. The pseudo-bulbs of *L. autumnalis* are shining green, roundish, narrowing almost to a point at the apex. From here the bloom-spikes proceed and bear five or six flowers on each, these being rosy purple of the sepals and petals, side lobes of the lip white, the centre one rose, streaked with magenta, and having a yellow centre. The plants are a true bulb, and consequently cannot endure a thickness of compost about its roots. It is owing to inattention to this that many amateur cultivators make such a poor show with it, for it is not really a difficult plant to grow when suitably housed and cared for. I have seen remarkably good specimens of this and similar species grown on large rough blocks of wood with the bark kept on, Apple wood being especially suitable. Rafts or shallow baskets are better than these and much more convenient for moving about. The compost may consist of equal parts of Moss and peat, a cushion of this about an inch in thickness being formed on the raft, pressing a little more Moss around the pseudo-bulbs when necessary to hold them fast, the whole being then firmly wired down. For baskets the same thickness of material will suffice, and in either case a firm holding for the pseudo-bulbs is of great importance. The plants push young growths in early spring, and as soon as these are getting a little advanced on established, well-rooted plants, it will be found necessary to water very abundantly, the more so, as hardly any shading and a free circulation of air are required. The advantage of perfect drainage will at this time be apparent. I find *L. autumnalis* rather erratic in its habits, some plants pushing up the spikes at once, almost before growth is finished, and others resting awhile. In fair treatment this is to be considered. What root action seems to be allowed no sign of the spike appears, all means let them rest, and the less water they have and the cooler they are kept, the better; but if on the other hand, the spikes push up at once, let them have their way and endeavour to rest afterwards. In the depth of winter a night temperature of 50° is ample, and care should be taken not to excite the growth until the increased light in spring allows of its being made under congenital influences. Too much heat is not advisable even in summer; in fact, I am of opinion that the majority of these Mexican kinds would be quite warm enough with the Odontoglossums if only the latter would stand more sunshine. But in a shady house they will never be satisfactory, so they have, as a rule, to put up with more heat than is really necessary. It is a very variable species, many named forms being in existence. R.

Vanda Amesiana.—This I have seen in flower this week in quite a cool house with the usual occupants of such structures. The large and finely coloured blossoms occur on many-flowered spikes, each one being 2 inches across, the outer segments rosy white, the labellum deep rose, with a nearly white margin. *V. Amesiana* was imported from the Shan States by Messrs. Hugh Low and Co., of Clapton, and first flowered in 1888. It is not difficult to grow, and is often seen in mixed houses of plants or vineries where it thrives. Clean, freshly-picked Sphagnum and charcoal are all that are necessary for compost, the plants being firmly tied or staked if the roots are not plentiful. It enjoys abundance of water while growing, less sufficing during the winter months. H.

Cypripedium Seegerianum.—This is a useful hybrid *Cypripedium* now fairly plentiful, and I have noted it flowering in several collections. It is the result of crossing *C. Spicatum* and

C. Harrisianum. The lip is deeply coloured, not unlike that of *C. barbatum*, to which species it is of course related through its pollen parent. The dorsal sepal is white with a suffusion of rose, and has the dark line in the centre, as seen in *C. Spicatum*. The habit is vigorous, the foliage resembling that of the latter species, but usually longer. It thrives in an intermediate temperature under the treatment usually accorded to the genus.

Dendrochilum filiforme.—Though very small individually, the elegant racemes of flowers produced by this Orchid are pretty and very delicately scented. In colour they are pale yellow and occur upon the last-formed pseudo-bulb. Not much compost is required to grow this plant, which succeeds best in small suspended pans or baskets. That used should be free from dust and dirt, and contain abundance of finely broken crocks. The drainage must be specially attended to, and may come to within 1 inch of the rim of the smaller-sized pans. The plants thrive best in the East India house, and during the growing season the roots must never be allowed to remain dry for any length of time.

LIGHT FOR ORCHIDS.

ALTHOUGH this subject has been repeatedly treated on by writers on Orchids, yet by far the greater number of amateur and small cultivators fail to grasp its importance. The value of a good clear light is of the greatest importance, for not only are plants grown in it more freely flowering than others kept in a more or less dense shade, but they are harder, stronger, and more susceptible to the effects of slight errors of treatment in other ways. For instance, it is quite easy to grow a houseful of Phalaenopsis under a dense shade, all through the summer months, and the fresh green appearance of some of the plants would doubtless deceive any but a practical eye, but the growth made under such conditions is not the kind to withstand the least check, and let the temperature drop but a few degrees below the normal, in all probability many of the leaves so ill built up will perish. The same with Cattleyas. These beautiful Orchids cannot be satisfactorily grown in any house that does not admit plenty of light on every side. Even such shade-loving plants as Odontoglossums and Masdevallias can be easily ruined by keeping them in a dark house during the winter months. The good old *Cypripedium insigne* will produce twice as many blossoms if kept in a good light as it will heavily shaded, and the liking that such kinds as *Dendrobiums*, *Catsetums*, and all the distichous race of *Aerides*, *Saccoglottis*, and *Vandas* have for light is so well known, that one would think everyone who possesses a few Orchids would strive to give them all the light possible from January to December. That it is not so is evident to anyone in the habit of visiting these small collections, for assiduous as the cultivators referred to are in potting, watering and cleaning their plants, they often do this under a glass roof rendered almost opaque with dirt for months together. Not only this, but when shading has to be resorted to, it is applied at certain stated times everyday, and no matter what the weather may be, it is left on until the time comes round for its removal. This is decidedly wrong, and as the time of year is approaching when light is of the most vital importance, I would urge on beginners to give the matter a little thought. Imagine an Orchid growing normally, it may be on the top of some tree where the only shade it gets is that afforded by a few leaves, while the latter are on, and none at all when they have fallen. This plant is brought home, confined to a glass house, in many cases

in a partially shaded position. The least we can do is to keep the glass clean and never to allow shading unless it is absolutely necessary to avoid scorching the foliage. In the neighbourhood of large towns the trouble is of course worst, but in country places where the houses are in proximity to deciduous trees, the leaves in autumn, and in many cases the flowers in spring, make a lot of work in keeping the glass always clean. In the former localities the glass should be well mopped down at least once a week on the outside, unless it is during the brightest and sunniest weather, and the inside should be so frequently sponged that nothing like a film can ever be seen upon it. Then, other conditions being favourable, the plants will be satisfactory, and it only remains to be careful not to overshad in spring and summer. While not recommending anyone to be always running to the shading when a cloud comes up, the blinds ought never to be drawn during the best part of a dull day following a bright morning, nor should the neglect of early ventilation render it necessary to put the shading on before the plants have become dry overheat.

To return to the present season; anything that can be done in the way of shifting plants to bring them nearer the glass, or any alterations that can be made to give each one room to stand clear of its neighbour, will be time well spent. Especially is this the case with plants that are for some reason backward in growth, such as imported plants received too late in the season to mature their pseudo-bulbs, or plants that were retarded in their flowering season for exhibition and are in a like state. Light, even more than heat, will be necessary to harden the tissues and give the foliage that robust and finished appearance that cultivators know is the fore-runner of a bounteous crop of flowers. R.

Lelia amanda.—This pretty Brazilian species is not so often seen as it deserves, for the blossoms are very delicate and refined in colour and occur at a time when they are exceptionally useful. They are each about 5 inches across, the sepals and petals rosy blush, with a suffusion of pink, the lip deeper in ground colour with radiating lines of purple. In habit it is rather peculiar, the spike being each about 9 inches high and bearing a pair of large green leaves. The spikes produce only a few flowers each, though these last very well in good condition. The plants must not be over-potted and the drainage in every case must be ample, plenty of water being required while growing freely. This commences, as a rule, late in spring, and from then until the flower appears, a position not far from the roof glass in the Cattleya house suits it best. After the flowers are over the plants must, if possible, be kept dormant for a time, and are best in a house a few degrees lower than the Cattleya house proper, though if this is not at command they will do very well in the latter. The compost may consist of good rough peat and Sphagnum, with plenty of crocks, the plants being elevated a little above the rim of the pot or basket.

Cypripedium Schlimii.—This pretty little species is again in flower and, as usual, is much admired for its delicate, yet bright appearance. Grown in a cool, moist, and shady house, the temperature a little higher than where the Odontoglossums thrive, it will do well, though it is a weakly grower at best. The roots are almost aquatic in their needs while growth is active, and one of the finest specimens of *C. Schlimii* I ever saw was grown with the pot standing in a saucer, the latter being kept filled with water, the plant also being watered freely from above. Still, I take it in this case there were not many roots in the lower drainage, and the moisture rising from the saucer was probably the cause of its doing so well. The amount of water it requires is extraordinary, and for this reason the material used for

compost should not be of a kind likely to hold it too long. In the place of the usual loam or so of loam, equal parts of this material and leaf-mould will be found more satisfactory, but the latter must be of the best quality, from such trees as Beech and Hornbeam, and not in only a part decocted state. During winter, evaporation will be less, and consequently the water supply will be somewhat lessened, but even then the roots ought never to be really dry. Owing to the number of flowers successively produced on the spikes, these last long in good order.

OCTOBER IN SOUTH DEVON.

During the past month a rainfall of 3.99 inches on 21 days has been registered, against 3.91 inches on 16 days in October, 1895, and an average for the month of 4.32 inches. In the ten months of the present year 18.61 inches of rain have fallen, while for the same period of 1895 20.74 inches were recorded, the average in previous years (27.36 inches) being considerably in excess of the fall for 1895 and 1896. The mean reading of the thermometer for the month has been 47.8°, which is low for October, the reading in 1895 being 49.6° and the average 51.3°. No frost has been registered in the screen, the lowest reading being 33.6° on the 23rd and 29th, but on the grass the mercury fell on 10 days below freezing point, though not to any great extent, the lowest grass reading being 29.2° or 2.8° of frost, on the 23rd. The highest screen reading was 65.6° on the 3rd, and the highest in the sun 110.2° on the same date. In sunshine the month has been slightly above the average, which is 116 hours, with 119 hours 40 minutes, the amount registered for October, 1895, having been 100 hours 50 minutes. For the past ten months of the year, with 1589 hours 5 minutes of sunshine, we have nearly reached the average, 1590 hours 10 minutes, but fall far behind the record of 1745 hours 5 minutes of the first ten months of 1895. The total horizontal movement of the wind has been 7732 miles, as compared with 6443 miles in October, 1895. The greatest daily run was 626 miles on the 25th, the greatest hourly rate being reached between the hours of 9 and 10 on the same date, when a speed of 38 miles per hour was attained. On 21 days the wind has been from south to west, and on 10 from north to east. The total wind movement for the past ten months exceeds that for the same period of 1895 by about 3000 miles. The mean percentage of ozone in the air for the month has been 56.1, ranging from 90 per cent. with southerly wind to as low as 5 per cent. on the 22nd and 23rd with easterly wind. The humidity has been 84 per cent. against 82 per cent. in October, 1895.

With the heavy rainfall of September continued through a portion of the past month and the action of high winds on sudden foliage, October, though not "chill," has been in sullen mood and chary of allowing "the little touches of brightness, that here and there relieve the monotony of the autumn garden," to appear at an hour when the commencement of the month the autumn Crocuses were for a while gay, but frequent heavy downpours soon laid their satin petals level with the ground. Some of the Starworts bore heavily up against the weather, Aster N.-B. Flora and A. Archer-Hind being amongst the best of the dark coloured varieties, if we except A. grandiflorus,

a splendid, large, dark purple flower with golden eye, which came into bloom towards the end of the month. This variety would be more valuable if it were earlier, as in sunless and backward summer it often fails to flower, even in this district, early enough to escape being marred by the frost. During the present and last season, however, it has been sufficiently forward to give a handsome display. Aster ericoides and A. diffusus horizontalis, with their wiry stems and small leaves, do not hold the brown like varieties of the Novi-Bulgii and Novae-Angliae sections, and have therefore presented a less drabbed appearance. Begonias and Dahlias in sheltered spots, where the September gale had not wrought dire havoc, were passably bright during much of the month, but here and there were slightly soared by frost. Erigeron mucronatus, though in diminished

face of a sheltered cliff, where the great corrugated seed-pods of Physianthus albens are now hanging, the Habrothamnus has been in profuse bloom, its neighbour being a fine plant of Plumago capensis, whose light blue flower clusters, however, less calculated to withstand the wear and tear of wind and weather than the more enduring blossoms of the Habrothamnus, have presented a rather pitiable aspect. On October 10 the first of the chaste blooms of the giant Christma Rose (Heliosperma atrolineatum) expanded, and a plentiful supply of buds promises a long duration of flowers for the house, doubly acceptable in the dark winter days. Iris stylosa has already commenced its flowering period, its position on a sloping bank in comparatively light soil being evidently more to its liking than its former quarters, in heavy loam near the water. Schizostylis coccinea, which is also in bloom, likewise resents a heavy water-logged soil, and in such situations often perishes altogether. A single Turk's-cap Lily, that over-slept itself last winter, has just put in a belated appearance to find vestige of its large family above ground. Looking at it standing alone beneath the leaden skies in the bare, brown Lily bed, where it shivers in the cold, wet wind, it seems so woe-begone, despite its scarlet turban, that one unconsciously adopts the "pathetic fallacy," and is tempted to fancy this "Cigale" of a Lily far worthier of commiseration than that "last Rose of summer," whose sorrows have been voiced by a generation of vocalists. Of Roses there has not been a plentiful supply, Souvenir de la Malmaison having been the most generous in affording cut flowers, though occasional buds were culled from time to time from plants of the Tea-scented section. The single white Macarthy Rose has been blooming with great freedom, and on the 21st I saw a large plant rambling along a low wall which had over thirty expanded flowers. This Rose continues to bloom in July, and continues to flower until well into unfavourable seasons. Rubus fruticosus Newmann kept up its display through the greater portion of the month, and the small scarlet flowers of Salvia coccinea at the verge of the wild garden have been very attractive. The purple Stokesia cyanescens is still in bloom, and in the rockery some Welsh Poppies (Meconopsis cambrica) are still in flower, while a patch of Water Avens on a bank is in full bloom for the second time this year. The Violets have come on well since the commencement of the wet weather, and bunches may any day be picked in the open, though the old leaves still show traces of the ravages of red spider. The Winter Cherry that lines the back of a long border has, with its orange

bloom, has expanded fresh flowers throughout the month, and the tall crimson flower-spikes of Erythrina crista-galli have held bravely out against wet and wind. In cutting this subject for indoor decoration it is well to exercise care in handling the spike, as the long curved thorns with which the stem is armed are capable of infliction of deep puncture. The Gentianella has burst into an autumnal blooming, and has given us a deeper blue than the azure of the hidden skies, deeper than the hue of the blossoms of Salvia patens, of which a few plants have remained in flower throughout the month. The scarlet Geums have at last gone to rest after many a month of bloom, the second week of October being well advanced ere their last red blossom faded. Against the

calyxes, been a bright note of colour, but is now cut for winter decoration. The Yuccas are blooming profusely, but were, after such a dry summer, strangely late in throwing up their flower-spikes, which may now be seen by dozens in this locality. When Yuccas are grown in quantity, the difference between the flower-spikes of Y. gloriosa and Y. pendula is very apparent. The Pampas Grass is also very ornamental at this time, though in exposed situations the plumes often get badly damaged by the wind. Some annuals, such as Salpiglossis, Eschscholtzia, and Nicotiana affinis, though the last is here a perennial, breaking from the old root each spring, have helped us with their last floral attempts, while Malva moschata has bloomed again sparsely, and huge



Mr. Anthony Waterer.

bushes of *Fuchsia Riccartoni* leaning over the roadway from cottage gardens, have been masses of crimson. Talking of crimson, what a sight some of the Hawthorn hedges are! So berried, that even in the distance the scarlet of the haws overcomes the brown of the Thorn boughs and the long hedge line glows with a dull red. The Hollies, too, are brilliant with a wealth of berries, and the coral-pink fruit of the Spindle Tree, in thick clusters, hangs above the yellow-tinted Hazel hedge at the copse end. In the shrubby great bushes of Barberry have been despoiled of their vermilion by hosts of blackbirds, which have also made a clearance of the Grapes that hung from the Vine-covered pergola.

Large specimens of *Fatsia (Aralia) japonica*, many yards in circumference, are not uncommon in this neighbourhood and when in bloom, as some are at present, are striking objects. *Choisya ternata* is in fair bloom in many places, and *Kerria japonica*, in flower against an ivied cottage wall, now makes a charming picture. The *Leycesteria* still carries its quaint blossoms, and *Abutilon vexillarium*, of which I saw a large plant growing outside a glasshouse, was in bloom at the end of the month after flowering from the early summer. The last white chalices were picked from the standard *Magnolia* on the 12th, for, although there are still numerous buds on the tree, the atmosphere is not genial enough to enable them to expand sufficiently to be of use for cutting. Several hundred blossoms have been gathered from this tree during the past season, the flowering period lasting exactly seventeen weeks, as many as forty expanded blooms being counted on one occasion.

Ampelopsis hederaeformis has been much in evidence, and where it grows against a rock or rugged cliff and appears as a straggling splash of crimson on a light background the effect is exceedingly beautiful, far more so than when a house is covered from ground to eaves with the close-growing *A. Veitchii*, the absolute evenness of such a covering being monotone. *Solanum jasminoides* is still exquisitely and will remain so for some weeks unless cut off and fresh intervals. Here and there a wall is bright with the glistening orange fruits of the *Passion Flower* and *Jasminum poliflorum* is commencing to don its golden vestment. *Tropaeolum tuberosum* when it does well is very effective. In some cases, however, it has flowered very sparingly this year, and on examination was found to have formed no fresh tubers. Often one healthy tuber will furnish fifty by the end of the season. The scarlet *Tropaeolum* Fireball has been very effective, its intense colour being hard to beat. It rarely, or never, comes true from seed—at least I have tried seedlings several times without success—but strikes readily from cuttings. The double *Bindweed* (*Calystegia pubescens* fl. pl.) is a very handsome climber and flowers well into October. The other day I saw *Apularia alba* and roses blooming freely in the open against a north wall. No protection is ever afforded them, but they passed through the severity of the winter before last unscathed.

S. W. F.

Hibiscus calycinus.—This Hibiscus, also known as *H. cyathiformis*, is one of the shrubby members of the genus, and in the temperature of a warm greenhouse it grows well and flowers freely even in a small state. It is of a good branching habit of growth, clothed with rather pale green leaves, which, as well as the young shoots, are covered with hairs. The flowers, which are freely borne towards the ends of the shoots, are each nearly 3 inches in diameter and of a sulphur-yellow colour, with a large purplish brown blotch at the base of each petal, thus forming a dark coloured eye. The flowers, though somewhat campanulate in shape, as in many of the different kinds of Hibiscus, are produced in nearly an upright manner. This Hibiscus is very readily propagated from cuttings of the young growing shoots put in at any time during the spring and early summer months. Plants so obtained will flower in the autumn, but older specimens yield the best display of blooms. The indi-

vidual blooms, as in most of the others, do not last long, but a succession is kept up for some time. As with many thin hairy-leaved plants, the greatest enemy to contend with is red spider, especially during a hot, dry summer.—T.

OBITUARY.

MR. ANTHONY WATERER.

We learn with much regret of the death, in his 74th year, of one of the best known of nurserymen and one of the most thorough in his knowledge of trees and shrubs—Mr. Anthony Waterer, of the famous nursery at Knap Hill. He was one of several generations of his family who have occupied the same ground and gradually formed what is perhaps the finest nursery of hardy evergreen shrubs in the world, a place which it is a pleasure to see at all times, but especially when the lovely American shrubs, which are the glory of the place, are in flower in early summer. There it has long been the rule to grow these shrubs and all other hardy evergreen things in the best way possible in our climate, and it was a rare pleasure to see Mr. Waterer among his favourite things and to witness the success of much sagacity and experience. We had much sympathy with his way of looking at things. He was a "hardy" man in a real sense. If anything perished in a hard winter on that cold Surrey plain, it never got any chance of dying there again. No amount of popularity would induce him to grow a tender tree or shrub again, and sometimes the leave-taking was a serious one, as in the case of *Araucaria imbricata* in the hard winter of 1860-61, when sixty thousand of it perished at Knap Hill.

We feel sure that many of our readers both in America—where he was well known—and in our own country will regret his loss and sympathise with his family.

W. R.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS AT THE AQUARIUM.

The great jubilee display was, of course, magnificent collectively, and I suppose as regards number of flowers there was never anything to approach it, but the individual blossoms generally were below the average of those of last year. In the chief class for Japanese flowers, for instance, the first and second prize stands were far ahead of the rest. The latter, in fact, contained more indifferent blooms than one usually expects to find in an important contest.

A splendid bloom of Mlle. de Galbert stood out conspicuously and is a charming white; Mutual Friend, another white, was also splendid in several cases. Mrs. H. Weeks is yet another white sort of great beauty. Of course Mme. Carnot was in evidence and Mrs. J. Lewis deserves notice. Fine specimens of yellow sorts were plentiful, the fine additions to this colour of recent years being particularly noticeable. Edith Tabor, Phœbus, Modesto, Oceana, each in its style grand, were well represented, but I failed to find a specimen of M. Pankoucke equal to what it was last year. Col. W. B. Smith, E. Molineux, and Vivian Morel, among old names, were not over-striking; M. Chénon de Léché, although in most instances wanting in colour, was a notable kind; Australie has a grand bloom, although the plant is tall; Mrs. Hume Long, a rich rose-coloured bloom, was noted in one or two stands as especi-

ally fine; Mlle. Marie Hoste, an old sort of extra substance and richness, never came out better; Nyanza, a rich crimson-brown blossom, is one that should be noted; Calvata's Australian Gold, although very fine in more than one instance, is hardly the striking show flower I expected to find. It is one, however, that I feel certain will be better another year. It appeared somewhat flimsy. Hairy Wonder was generally admired both for its size and quaintness. Thomas Wilkins has never been seen so good as this year.

The incurved types also appeared to be less than in some past seasons. By far the finest blooms were those of the recently introduced sort Chas. H. Curtis, a yellow bloom of wonderful depth and solidity. But this is not a true incurved variety, according to the canons of the older florists. It has pointed florets. All the same, it is a magnificent flower and the colour is very rich. The Queen of England types were comparatively small; so, too, were those known as the Princess of Wales group. One would like to see these represented as we saw them a few years ago, but the constitution of the several sorts seems to be entirely ruined by high culture.

Reflexed Chrysanthemums are a dull, uninteresting class and they were feebly shown. The Anemone-flowered, too, are pretty, but dull in colour, compared with the more showy Japanese kinds. Single types were pretty. Personally, I do not like the manner of exhibiting them that finds favour. They are first thinned so as to be unduly large, and then set up in a stiff and formal way which spoils their effect. Miss Mary Anderson, Purity, Golden Star, Gus Harris, Terra-cotta, Miss Rose, Yellow Jane, and Snowdrift are mostly old sorts, but they are still among the best.

Huge vases of Chrysanthemums, gave us the American style of exhibiting the flower, and a most effective way it is. Probably the most striking show was that of Modesto. Placed as this was, under the glare of the electric light, with suitable foliage intermixed, it formed a splendid object. Phœbus, Mlle. Thérèse Ray, and the newer Western King were each splendid exhibited in this manner in masses.

Quite new varieties of merit were conspicuously absent from this great show. Calvata's Australian Gold, Modesto, and Western King had been seen before. Mrs. J. Lewis and Simplicity (both white sorts) were the best. Mme. Mees de Proli I thought most promising. It is an incurved Japanese bloom of a flesh-pink colour.

H. S.

Two useful Chrysanthemums.—Two excellent Chrysanthemums belonging to the small section are Thistle and Sydenham Terra-cotta. The former, as its name implies, very much resembles the flower of the ordinary Thistle, the petals being of quite a wiry texture and lasting a long time either on the plant or when cut. It is a distinct novelty and should be in every collection where cut flowers are needed in quantity. In the bud state it has a yellowish cast, but when fully expanded the flower is whitish. Sydenham Terra-cotta is a most profuse bloomer, and, being of a fashionable colour, is much appreciated.—J. C.

Chrysanthemum Mrs. G. J. Beer.—This is one of the largest of the Japanese, but, however well grown, cannot be considered an ideal flower. Two years since it was exhibited in good form at the December show of the N.C.S., but even then little was thought of it. Its proper position has at length been proved, and that is in the form of a specimen plant. At the recent exhibition of the Highgate and District Chrysanthemum Society a remarkable plant was staged in competition as a single specimen, and this was freely flowered,

with blossoms of a rosy-purple colour, the growths lending themselves well to this form of manipulation. The plant was at least 6 feet through.—C. A. H.

Chrysanthemum Chas. H. Curtis.—This magnificent incurved variety has been exhibited in exceptionally fine form this season, and has probably been seen in more winning stands than any other variety of the same type. It is a kind that is of easy culture, succeeding well with both amateurs and professionals. Many instances could be given where premier blooms have never been subjected to artificial dressing, the florets coming so evenly and regularly that this has been quite unnecessary. Most of the flowers have been remarkable for their great depth and their even finish, while blooms which have developed from buds secured rather later than usual have given flowers of less depth, but with a much richer yellow colouring and florets of greater width and substance.

The introduction of this sterile variety has undoubtedly altered the position of other good sorts. Old growers seem like the pointed florets which are characteristic of this variety, preferring instead the rounded ends to the florets as seen in the Queen type of incurved, but the later introductions incline to the newer form of florets.—B.

Chrysanthemums at Ghent.—At the Ghent Chrysanthemum show several members of the N. S. exhibited some finely grown blooms, to be staped in the name of the exhibitor. They were staged in glass bottles, interspersed with small pots of Adiantums, and made an excellent display. The blooms were grown by Messrs. T. Bevan, Skoggs, Martin, J. Brooks, Turk and A. H. Page, whose Mme. Carnot called for a special mention from the jury. The collection comprised many standard Japanese kinds, about twenty varieties of pompons, and forty-five cut blooms of large-flowered and Japanese Anemones. Foreign raisers also contributed cut blooms of new seedlings, M. Ernest Calvat and M. de Reydellet being the chief; but those sent by the latter were not named and only exhibited under number. The Ghent collections are evidently well stocked with all the leading show varieties, for we noticed particularly A. H. Fewkes, Boule d'Or, President Borel, M. Pankoucke, Deuil de Jules Ferry, Mrs. J. Lewis, Baron Hirsch (incurved), Intercease (very pretty in colour), International (a fine specimen plant 5 feet across), Noes d'Or, Duke of York, Mrs. C. Harman-Payne (good in several groups), Souvenir de Petite Amie, W. H. Lincoln, Etoile du Lyre, Reine d'Angleterre, Edwin Molyneux (fine), C. H. Curtis (incurved), l'Ile de Mme. Carnot, Hairy Wonder, Eda Prass, Waban (very deep pink), Mme. Rosain, Lord Brooke, John Bunyan (several fine specimen plants), and many others. Novelties were well represented, but must be dealt with on a future occasion. Hairy varieties included some capital sorts, of which some were quite new.—C. H. F.

SHORT NOTES.—CHRYSANTHEMUMS.

Chrysanthemum Lady E. Saunders.—The present season has suited this variety admirably, flowers of great beauty having been exhibited in many of the leading stands in different parts of the country. This is one class of Japanese that is deserving of more attention than is now general. The flowers are fairly large and the colour is soft primrose, deepening in the centre. The habit of growth is a most desirable one.—C.

Chrysanthemum Mrs. John Shrimpton.—This another Japanese variety raised by Mr. W. Sewall, and is quite distinct from any other known sort in point of colour. It is best described as deep golden buff with crimson-red centre, the florets sometimes striped and shaded with the same colour. The flowers are good size and of even form, with long florets of medium width and on even form, with long

blossoms. It is a good grower and was raised by Mr. W. Sewall, Hanwell, who has given us some of the very best Japanese varieties.

PUBLIC GARDENS.

CHRYSANTHEMUMS AT WATERLOW PARK.

The Chrysanthemum display in this delightfully situated park is each season better appreciated by the residents of north London, judging from the way in which visitors thronged the houses containing the collection here on the occasion of our visit.

In the columns of THE GARDEN last year, when describing the disadvantages under which the plants were housed, a hope was expressed that the London County Council would provide Mr. Pallot (the superintendent) with better accommodation for housing the collection. It is all the more pleasing, therefore, to record that a new plant stove has been erected, into which some of the more tender greenhouse subjects have been placed, thereby giving more space in the other structures. In addition, the very lofty and spacious greenhouse or conservatory has been reduced in height some 2 feet, giving the place a more comfortable and useful appearance. The plants suffered somewhat from being huddled together in a cramped position for some little time while the alterations to the last-mentioned place were being completed.

Notwithstanding all these difficulties, the grower, Mr. Webb, has every reason to be pleased with his efforts this season. There are here and there blooms of exceptional merit, but in most instances the plants were freely flowered, in this way creating a bright effect. In the large house, as a huge bushy one, either side sloping gently down to the floor, the plants were neatly arranged, pains evidently having been taken to make a pretty effect. All types of the Chrysanthemum were here represented, although Japanese and incurved sorts predominated, with a useful sprinkling of charming little pompon varieties. The display was continued right on through the aviary, where the plants made one long bank, divided only by the glass partitions. One very good feature—and also one worth repeating throughout the country in all public displays, and in those of nurseriesmen too—was the use of neatly printed cards, each bearing the name of the variety upon which it was fixed. It was quite pleasing to listen to the remarks made by the visitors on this practical means of acquainting the public with the names of the different sorts. If the show here is to retain its hold upon the public, the parks committee of the London County Council must be a little more generous in the purchase of new novelties, as it is the novelty in large flowers that appeals more particularly to them. Not more than a dozen new sorts were added last spring, and many of these had then been in commerce several years. What is wanted is a wise selection of new varieties each season, and this made by some competent individual whose opinion would be respected. Not one only of each new sort should be grown, but half a dozen of each sterile variety recommended. Let this rule be adopted, and the result would amply repay little extra expenditure. Among the newer Japanese sorts are Bride of Maidenhead, a lovely double white, which somewhat resembles Avalanche; Mrs. A. G. Hubbard, a pretty pompon flower, and rarely seen in better condition since first distributed. Hairy Wonder was in full form, its cinnamon-buff colour standing out distinctly and its hairy appendages well defined. Edith Tabor, although an undoubtedly good yellow, is not yet so good as was expected of it. Phoebe, a grand yellow flower was seen, and one that has come to stay, being good on all buds.

Duchess of York is a pretty light yellow, but will

be seen in better condition later. Mrs. E. S. Trafford, the bronzy red sport from W. Tricker, was often in evidence, as were William Seward, bright crimson, and President Borel, the colour, deep crimson rose, being very clear and distinct. Of the older varieties in the Japanese section the following were represented in good condition: Florence Davis, beautifully chrysanthemate, green centre, a favorite with all lady visitors; Barry of Exmouth, white; Pérotet, salmon-crimson, light reverse, fine bold flowers; M. C. E. Shea, the pretty golden yellow sport from Mile Lacroix, carrying a nice lot of medium-sized flowers; Mme. C. Capitan, pale rose-flecked, nicely developed; Colonel Chase, bluish, shaded cerise, very refined sort; Mr. A. H. Nere, lovely silvery blush, in fine form all over the place; Mme. Carnot, white; Col. W. B. Smith, old gold and terra-cotta; and H. R. Williams, a Ryecroft seedling.

The newer incurved varieties were represented by Chas. Curtis, a large yellow flower, and Mrs. R. C. Kingston, lilac-pink. D. B. Crane was coming very nice and neat from fairly late buds, its rich bronze-buff colour being much admired. The older varieties were not particularly numerous, the most noticeable being all the Mrs. Rundle type of flower, and grown in a free manner, this system appearing to suit the variety better than severely disbudding. Brookleigh Gem, mauve sport from Jeanne d'Arc, Beverley, and Mr. Bunn each carried nice deep and even flowers. Descartes, the bright crimson red large Anemone, was just past its best, having typical flowers, while King of Crimson was decidedly the best of the reflexed. Pompons are always a pleasing feature here. Elsie Dordai, with its small globe-like compacted blossoms; Howard H. Glazebrook, with its pretty thread-like flowers; the rich crimson; William Westlake, the best of the yellow pompons, and Mme. Marthe, still a good white, were conspicuous. The side benches were filled with a good display of succulents and a fine lot of Aster Amellus. The borders outdoors contained a large number of hardy Chrysanthemums still covered with bloom, and should the weather remain open yet a little longer, they should assist to give a cheerful aspect to the surroundings.

CHRYSANTHEMUMS AT FINSBURY PARK.

The display of Chrysanthemums in this park is highly appreciated by the residents in North London, judging from the patissons with which they wait their turn to pass through the structure containing the collection here. Some 4000 plants are grown, and the period of flowering is so well arranged, that from the opening of the show in October until late in November there is a continuous exhibition of Chrysanthemums in almost every known shade and form. The display is a thoroughly representative one and serves its proper purpose in making known to the general public the diverse forms and colours which are now obtainable. Pompons of different types, Anemones, reflexed Japanese and incurved, together with a few good examples of the hirsute blossoms, and a nice batch of decorative varieties combine to make an ideal representation of the wealth of variety in the Chrysanthemum. The housing accommodation is excellent. A nice light and airy glass structure is specially reserved for this display. The plants are arranged as a long bank, and set up in a pretty undulating way, and also with considerable artistic taste. At the back of the group, a goodly number of decorative plants were arranged in a pleasing manner, the old variety l'Ile des Plaisirs, with its charming little blossoms of crimson and yellow freely produced, forming a capital background in association with such varieties as Mr. Bunn, Mr. George Glenny and other members of the Rundle family. The upright supports to the structure were partially hidden by freely-flowered specimens of Margot, which appears to do remarkably well here. The front

of the bank of plants was fringed with pompons in variety.

All the best known Japanese sorts are included in the collection, and these in most instances were illustrated by good specimen blooms. Some beautiful flowers of Mme. Carnot were noticed. Niveum was represented by some of the best flowers we have seen, many other blossoms of the most chaste description developing to continue the display. Vivian Morel was seen from late-secured buds, the colour being a bright rose-pink and the bloom large. H. W. Smith was also mired by the visitors. Col. W. B. Smith was in fine form, and M. E. Hill was also good. Vicountess Hanmerdale was also seen in good form; its delicate bluish-pink colouring and its pretty incurved Japanese form called forth many expressions of admiration. A variety little known and deserving of extended cultivation is Mr. E. G. Whittle, with flowers of a colour peculiar to a Malmaison Carnation and of a neat description. This must not be confounded with another variety under the name of Mrs. E. G. Whittle. The colouring in Chas. Davis was very good, especially considering the close proximity of the London fog and smoke. Silver King was good here as elsewhere this season, with very large flowers of rose mauve, but rather coarse. The peculiar form of Japanese as represented in Good Gracious was interesting, and with the deep crimson flowers of W. Seward, a pleasing contrast was effected. Vice-President Audiguer, Jeanne Défaux (freely flowered), International, President Borel (good colour), Cullington, still the brightest of the reflexed, and Mr. A. H. Neve were among the best of the older sorts. There were no so many new varieties as might have been expected, and a little more liberality on the part of those responsible would be a step in the right direction, as novelty in shows of this kind is the essential in keeping alive the interest. Of the novelties, Chas. Curtis is the best yellow incurred of recent introduction; while among the Japanese was seen Mr. Chas. Blick, a large spreading white flower; Phobus, with nice deep yellow blossoms; J. H. Bunchen, a large globular flower also a yellow; Alice Seward, pretty, rose-purple; and Mr. W. R. Sesgo, a large flower of a rose-pink colour. Descartes, a large Anemone, was in fine form.

CHRYSANTHEMUMS IN BATTERSEA PARK.

If success is to be measured by popularity then, indeed, Mr. Coppin, the superintendent at Battersea Park, and Mr. Wheeler, the Chrysanthemum grower there, must be content with their efforts, for during the afternoon of our visit there was one continuous stream of visitors passing through the greenhouse in which the Battersea collection is staged. As in former years the plants are arranged in a wide sloping bank in a lean-to structure about 120 feet long by 25 feet in width. Most of the good old standard varieties are on view with an excellent sprinkling of novelties of recent introduction to lend additional interest to the Chrysanthemum fancier.

Incurved varieties are, perhaps, more numerous than at most of the trade displays where one mostly sees Japanese. Of these older favourites mention should be made of Lord Alecto, Golden Empress of India, Lord Wolseley, Mr. Buno, of which there were some capital examples, Lord Rosebery, Miss Violet Tomlin, Prince of Wales, Golden Beverley, Jeanne d'Arc, Refulgens, Barbara, Alfred Salter, and Geo. Glenny, always perfect in form and build and a typical variety of the section. Here and there we noticed some pretty blooms of an old favourite Dr. Sharpe, a reflexed flower of a bright rose magenta shade very useful for brightening up a group and also some good specimens of Cullington, a rich deep red in the chrysanthemum shape, and at much the same height as those to whom mere size is not the first consideration.

Anemone-flowered varieties were not numerous, but several large well-flowered plants of Decoetes, a Japanese Anemone of a rich velvety wine-coloured crimson, lent an attractiveness to the

display that would be difficult to be obtained without its use.

Japanese, of course, preponderate. Very charming and dwarf is Comte Lurani, bright rose pink, excellent for mixed groups, as there are so few varieties of a pure colour like that. Deep crimson tones were seen in such varieties as the Shrimps and Seward. Pale rose pinks were found in such varieties as M. Tarin, Vivian Morel, La Triomphante, Vice-President Audiguer, Eda Pras, M. Freeman, Mrs. E. G. Hill, Eccluse, and others equally well known. Mlle. Thérèse Rey, the well-known Japanese, and the somewhat older variety, Flora's Piercy, were in first-rate form. Charles Davis, rich rose bronze, the sport from Vivian Morel, still remains one of the most effective and striking productions we have ever had, and in similar shades Lord Brooke, Col. W. B. Smith, and Mrs. Falconer Jameson were well represented. Here and there a few plants of that charming little pink pompon, Mlle. Elise Dordan, were interspersed, and seemed to please the visitors by its peculiarly neat and delicate form. Gloriosum, a large yellow Japanese, raised in America some years ago Val d'Andorre (deep reddish bronze) and Cloire du Rocher (reddish terra-cotta and reverse of gold) appeared in good style. For purity of tone in yellow varieties, Sunflower and its near companion Pallanza were conspicuous. Comte de Geminy, one of the earliest introduced Japanese, was large and solid. Another old, but most beautifully coloured Japanese, that was once very popular on the exhibition table, is Edouard Audiguer, colour rich purple-marrow, with a silvery reverse. Good Gracious—curious from the formation of its florets, which are twisted and whorled—was also noticeable, and a good white is Mlle. Thérèse Pankoucke. Of a deep purple plum-coloured shade is the once well-known M. Bernard, and close by are some very attractive blooms of President Borel, with a rich bright rose amethystine colour and a reverse of mingled silver and gold. A useful variety for decoration is President Hyde, deep golden yellow reflexed.

Special interest appeared to be attracted by one or two blooms of the famous hairy variety, Mrs. Alpheus Hardy, the only one, except Hairy Wonder and Louis Boehmer, so far as we could discern, of the group. Louise—a large incurved Japanese, colour pearly white, good everywhere and at any time during the season—was no exception to the rule. Delaware, of the Anemone type, with white guard florets and a yellow disc, is one of the few varieties of that type in the Battersea collection. A few other varieties in good form were Duchess of York, Source d'Or, W. Tricker, M. Wm. Holmes, Mrs. W. H. Lees, W. G. Newitt, Stanstead White, W. H. Lincoln, International and the like.

A few pompons were arranged round the front of the house, the principal varieties being Precoce, Sunset, Rosinante, Sœur Mélanie, Snowdrop and Golden Mme. Marthe.

PHOTOGRAPHIC COMPETITION, 1896.

We have to thank our many correspondents for kindly sending photographs, some of the highest interest and great beauty. In some cases the competition was so strong that we have had to double the prizes rather than do any injustice; in others, to our surprise, there was little competition, especially in the classes for Irish and Scotch gardens, and also Roses. The want of competition in Roses is probably owing to the fact that the Rose for many years has vanished from the flower garden, and to the absurd ideas that is taught by books, that the Rose is not a decorative plant, and must be grown somewhere else—hence most of our showy, ugly flower gardens are bare of the grace of the Rose.

Favorites are less than in former years. Where they occur they are, as usual, the result of hard, bad flower gardening, or want of flower garden-

ing at all, many beautiful houses being sent to us with wild grass growing right up to the wall. Worse than this are showy bad buildings—points and angles and staring greenhouses against the house. Overcrowding, over-exposure, and over-reduction are among other causes. Cheques to the amount of £159s. 6d. have been posted to the following competitors:—

LIST OF AWARDS.

CLASS 1.—COUNTRY HOUSES AND FLOWER GARDENS.—1ST PRIZE: Miss E. Willmott, Warley Place, Great Warley, Essex. 2ND PRIZE: Mr. W. Shawcross, Spital Street, Guildford.

Extra Prices.

Mr. Geo. Fowler-Jones, Quarry Bank, Malton, Yorks. Combermere Hall, near Shrewsbury; A. Litton's Cottage, near Oddington Churc', Worcestershire; Linford Parsonage; The Grange, near A什ring, Yorks.

Mr. F. Spalding, 4, High Street, Chelmsford. Ingatton Rectory; Danbury Palace; Langley, Great Waltham; The Wick, Writtle.

Mr. W. G. Holland, Glas Alyn, Gresford, North Wales. Trevallyn, Roset, North Wales; Liskeard Vale, New Brighton; Glas Alyn, Gresford, North Wales.

Mr. S. Griffin, Wilton Road, Salisbury. Bishop of Salisbury's Garden; Italian Gardens at Wilton House.

Miss Acton, Winchester. House at Elderfield, Hants; The Deeps, Wexford, Ireland.

Miss Barton, The Grove, Wishaw, Warwickshire. Cottage with Old Flower Garden; Cotage with Border of Pinks.

Mrs. Deane, Fairfields, Fareham, Hants. Garden at St. Margaret's, Titchfield.

CLASS 2.—FLOWERING PLANTS.—EQUAL 1ST PRIZE: Miss Willmott, Warley Place, Great Warley, Essex, and Mr. S. W. Fitzherbert, Lanscombe House, Torquay. EQUAL 2ND PRIZE: Mr. C. Metcalfe, Mill House, Halifax, and Mrs. Selfe-Leonard, Hitherbury, Guildford.

Extra Prices.

Mr. King, 4, Avenue Road, Goldhawk Road, Shepherd's Bush, W. Two Views of Water Lilies, Royal Gardens, Kew; The Dell, Hyde Park; Flower-vase and bed.

Mr. W. J. Vassy, Broad Street, Abingdon. Dahlia Julia Wyatt, Plumbago capensis, Pentas carnea, Myrtle.

Mr. C. Mayes, Paignton, Devon. Double Primrose; Narcissus Queen of Spain, Oncoclea sensibilis, Adiantum pedatum.

Mr. F. E. Pope, Coombe Down, Bath. Strawberries Growing in an Old Barrel, Hunnemannia, Gaillardia, Euonymus punctata.

Miss Gaisford, Offington, Worthing. Solanum crispum, Tamarix parviflora, Desfontainesia epipactis.

Mr. J. C. Tallack, Livermere Park Gardens, Bury St. Edmunds. Rudbeckia pinnata, Cyclamen neapolitanum, Aster Amellus.

Mr. J. C. Varty-Smith, Nandina, Penitrich. Passiflora quadrangularis, Akelia quinata, Gourania pratense, Peonies.

Mr. S. Griffin, Wilton Road, Salisbury. Colletia biacionensis, White Stocks, Campanula and Polar-jonians.

Mr. H. G. Close, Kirlington Park, Oxford. Wistaria on Wall, Clematis on Balcony, Creeper in Vase.

Mr. Deane, Fairfields, Fareham, Hants. Large-flowered Clematis, Datura Tatula.

Mr. E. G. Lowe, The Avenue, Trowbridge. Lilium auratum.

Mrs. Barton, The Grove, Wishaw, Warwickshire. Godetias.

Miss S. Bird, Bardswell Cottage, Esher, Surrey. Michaelmas Daisy Purity.

CLASS 3.—BORDERS, GROUPS OF HARDY PLANTS, FERNERIES, AND ROCK AND WATER GARDENS.—1ST PRIZE: Miss E. Willmott,

Warley Place, Great Warley, Essex. 2ND PRIZE : Mrs. F. H. Lloyd, Stowe Hill, Lichfield.

Extra Prizes.

Mr. W. M. Molynieux, St. Catherine's House, Gulford. Border of Sub-tropical Plants, Bed of Castor-oil plants; Ferns, &c., in a Greenhouse.

Mr. S. Griffin, Wilton Road, Salisbury. Borders at Bremerton Rectory, Herbaceous Border at Longford Castle.

Mrs. Deane, Fairfields, Farsham, Hants. Clematis and Rose on Pillar, Hardy Flower Border.

Mr. W. G. Holland, Glan Alyn, Gresford, North Wales. Border of Michaelmas Daisies.

Mrs. Barton, The Grove, Wishaw, Warwickshire. Border of Standard Roses.

Mr. A. Emblin, 18, Park Street, Workop, Notts. Border of Stocks, &c.

CLASS 4.—LAWNS, OLD ORCHARDS, WILD GARDENS, GRASS WALKS, AND PICTURESQUE PHRASES.—1ST PRIZE : Miss E. Willmott, Warley Place, Great Warley, Essex. 2ND PRIZE : Mr. S. W. Fitzherbert, Lanscombe House, Torquay.

Extra Prizes.

Mr. H. N. King, 4, Avenue Road, Goldhawk Road, London, W. The Avenue, Welwyn ; View in Sherwood Forest; Silver Firs, Roseneath, On the Cam ; View Burnham Beeches ; A Wood, Landscaped.

Mr. Fred Spalding, 4, High Street, Chelmsford. Views in the Gardens at New Hall ; Lyons Hall ; Danbury Palace ; Cottager's Back Garden.

Mr. S. Griffin, Wilton Road, Salisbury. Medlar tree ; Wild Garden, Bremerton Rectory ; Yew Hedge ; View in Wilton Park.

Miss Dunster, Court Lodge, Knockholt, Sevenoaks. View in Rectory Garden, Woodbastwick ; A fine Oak in Knole Park ; Rhododendrons at Heron Court, Bournemouth.

Mrs. Deane, Fairfields, Farsham, Hants. Grass Walk at Fairfields ; An Old Archway.

Mr. W. Shawcross, Spital Street, Gulford. A Study of Trees ; Old Oaks near Gulford.

Miss Boucher, Kempsey House, Kempsey, Worcester. Roses in Garden at Kempsey House ; View in a Wild Garden.

CLASS 5.—ROSE GARDENS.—1ST PRIZE : Miss E. Willmott, Warley Place, Great Warley, Essex. 2ND PRIZE : Not awarded.

CLASS 6.—BEST GARDEN FRUITS.—1ST PRIZE : Mr. J. C. Tallack, Livermere Park Gardens, Bury St. Edmunds. 2ND PRIZE : Miss Ryves, The Mount, Budleigh Salterton, Devon.

Extra Prizes.

Mr. B. Stevenson, 17, Granville Avenue, Long Eaton, near Nottingham. Gooseberry "Bobby." Miss S. Bird, Bardswell Cottage, Esher, Surrey. Branch of Marie Louise Pear.

CLASS 7.—BEST VEGETABLES.—1ST PRIZE : Mr. F. Parren, 38, Northgate Street, Canterbury. 2ND PRIZE : Mr. J. C. Tallack, Livermere Park Gardens, Bury St. Edmunds.

Extra Prizes.

Mr. E. W. Billington, Hill View, Park Hill, Ampthill, Beds. Beet Egyptian Turnip-rooted, Ornamental Gourds, Celery Major Clarke's Red. Mr. B. Stevenson, 17, Granville Avenue, Long Eaton, near Nottingham. Vegetable Marrow, Potato Lord Tennyson.

CLASS 8.—IRISH GARDENS.—1ST PRIZE : Mr. John McLeish, Strafan, Co. Kildare, Ireland. 2ND PRIZE : Not awarded.

Extra Prizes.

Miss A. J. Young, 4, Kingston College, Mitchelstown, Co. Cork, Ireland. View of Garden at Broombill, Mitchelstown Cottage, View in Garden at Charville.

Miss Sybil Knox-Gore, Belleek Manor, Ballina, Co. Mayo, Ireland. Lilium candidum and Roses, Two Views of Hibiscus Border.

CLASS 9.—SCOTCH HOUSES AND GARDENS.—

1ST PRIZE : Not awarded. 2ND PRIZE : Mr. G. Fowler-Jones, Quarry Bank, Malton, Yorks.

Extra Prizes.

Mrs. Gordon-Duff, Drummar Castle, Keith, N.B. Herbaceous Border, Herbaceous Borders at Buchromb House.

CLASS 10.—CUT FLOWERS, VASES, ETC.—1ST PRIZE : Mr. S. W. Fitzherbert, Lanscombe House, Torquay.

Extra Prizes.

Miss Huthley, Herdwicks Hall, Bocking, Braintree. Table Decorations of Narcissi and Roses, Clematis and Narcissi, Vases of Iris, and Fritillaries.

Mr. G. Ingram, Ascot. Vases of Christmas Roses and Ferns, Christmas Roses and Nut-Catkins, Wild Clematis and Japan Maple, Sedum spectabile.

Mr. T. G. Hibbert, 28, Rampion Road, Sheffield. Daffodils in Water bottle, Narcissus and Ferns, Lilies of the Valley.

Mrs. Deane, Fairfields, Farsham, Hants. Vases of Tea Rose, Hibiscus, Solanum jasminoides in a tuber.

Mr. C. McCalfe, Mill House, Halifax. Double White Poppies in a glass, Lilium candidum in a jar.

SPECIAL EXTRA PRIZE OF FIVE GUINEAS FOR FINE TREES TO MR. GEO. FOWLER-JONES, QUARRY BANK, MALTON, YORKS.

SPECIAL EXTRA PRIZE OF THREE GUINEAS FOR FINE SPECIMEN FERNS TO MR. C. METCALFE, MILL HOUSE, HALIFAX.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the floral committee was held on Wednesday last at the Royal Aquarium, Westminster, Mr. Brian Wyne occupying the chair. There was a good attendance of members, and the exhibits in several instances were of a high order of merit, the principal exhibitors being Messrs. Norman Davis, H. J. Jones, W. Wells, Ernest Calvert, and R. Owen.

First-class certificates were awarded to the following Chrysanthemums :—

SUNSTONE.—A Japanese incurved of large proportion, with florets of medium width, prettily curving at the tips, resembling in form the well-known Col. W. B. Smith, colour light yellow, suffused light bronze, with paler yellow reverse. From Mr. N. Davis, Framfield.

SIMPLICITY.—Large spreading Japanese flower of the purest white, and of the most refined character, with long drooping florets of medium width. This variety was represented by flowers from early and from late buds, the latter being of the most chaste and delicate description. From Mr. N. Davis.

JOSEPH BROOKS.—A large massive Japanese incurved, with long florets of medium width, curving, and slightly wrinkled at the tips ; colour deep golden-yellow, freely flushed with reddish crimson. Exhibited by Mr. N. Davis.

MRS. MARLING GRANT.—A very beautiful Japanese reflexed with long spreading and drooping florets, rather broad, colour golden-yellow, freely suffused light terra-cotta, with golden reverse. This variety is one of great promise.

Mrs. A. G. HEBRUCK.—A massive Japanese flower, in form resembling Commandant Biusset, and of great depth, florets erect and narrow, colour bright chestnut-red, with gold reverse. This came from Mr. W. H. Lees, Barnet.

There were several varieties which failed to secure distinction but which are sure to be seen again, possibly in better form. The most promising of these were Julia Scaramanza, large Japanese, colour bronze terra-cotta not unlike

late flowers of Chas. Davis ; Triomphante de St. Laurent, a rich golden-yellow Japanese of great promise ; Pearl of Maidstone, immense Japanese incurved white, tinted rose, with shallow flower ; Czarina, large massive Japanese incurved and somewhat narrow florets, colour rose pink, a very promising variety ; Capitaine L. Chauze, as addition to the hirsute Japanese incurved, broad florets, colour bronze yellow ; and Mrs. James Eddie, a lovely silvery pink incurred, which the committee could hardly define. A pretty bronze sport from William Holmes, exhibited under the name of Mr. Edgar Bruce, gave promise of being a useful market variety. A plant of a light yellow sport from Mme. Carnot, and named E. J. Warren, was exhibited by Mr. Wells, and this committee wished to see again. A solid-looking Japanese incurred named Talene, and shown by Mr. N. Davis, with broad florets of a pleasing shade of lilac mauve, with a wavy mauve reverse, was commended.

The question of forming a sub-committee to go into the better and clearer definition of an incurred flower, &c., was discussed, and it was finally determined to ask the general committee to appoint a small committee for the purpose.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, November 24, in the Drill Hall, James Street, Westminster, 1 to 4 p.m. At 3 o'clock the Rev. Prof. Henslow, M.A., will give a "Floral Demonstration."

Gardeners' Royal Benevolent Institution.—The committee of this institution, at their meeting held on the 13th inst., decided to place twenty candidates from the list of applicants on the funds at the next election, which will take place on January 14, 1897. Ten of these candidates will be recommended for election without votes, they having complied with the terms of Rule III., 5, and other rules in connection therewith ; the remaining ten will be elected by the votes of subscribers in the usual way. In thus increasing their liabilities by adding to the pension list the largest number of candidates ever admitted at any one election in the history of the institution, the committee had in mind the fact that next year will witness the celebration of the sixtieth year of the Queen's sovereignty, and as Her Majesty has been for forty-five years the gracious patroness of the charity, they intend to appeal to all gardeners and other friends of the institution to assist them in making some special effort on its behalf during the coming year, in commemoration of an event which will be unparalleled in the annals of this country.

Decorating beds of bulbs.—What are the most showy annuals or dwarf perennials for blooming during the long summer and autumn months after Narcissi, and other bulbs are over ? Bare beds and borders are not ornamental, and the ground between the bulbs surely ought to be utilized without injury to the bulbs. It would of course be advisable to avoid plants for which slugs have a partiality. —W. T., Bishopsteignton.

Names of plants.—H. J. Hunter.—Pale form of *Lathyrus furfuraceus*.—Constant Reader.—*Pernettya mucronata*.

Names of fruit.—Oakenhead and Co.—Apple not recognised.—H. D. R.—Grapes : 1, Black Hamburg ; badly coloured and shrank, owing to the Vine being too heavily cropped ; 2, Alicante.—Deronvilliers.—Pear Easter Beurre.

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THE GARDEN.

No. 1306. SATURDAY, November 28, 1896. Vol. L.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ROSE GARDEN.

ROSE LAMARQUE.

It is surprising that in these Rose-growing days, when even whole houses are devoted to the purpose in private places, mention should so very seldom be made of this grand old-fashioned, but most useful variety. It belongs to the Noisette class, and for covering back walls and making a display early in the year it is certainly second to none. It is of a delicate lemon colour and a most profuse bloomer if properly treated. The finest specimen of it I ever saw covered the back wall of a lean-to Peach house at Sundridge Park, in Kent. There was a sufficient space between the top of the Peach trellis and the wall to admit abundance of sun and light to the latter, and each year the wall was worth a long journey to see, the majority of the blooms being open during March. The great thing in the culture of Lamarque, as indeed it is in the case of all pillar or climbing Roses, is to secure annually plenty of young wood of a stout character, this being duly laid in at intervals as the season advances, so as to get thoroughly ripened. No more was allowed at Sundridge than could be fully exposed, and as soon as the flowering season ended, all the old wood that could be spared was removed. Some of the growths were many feet in length, such growths being characteristic of Lamarque. If wanted for button-holes or bouquets, the blooms must be secured in quite a young state, as they soon open, although in a fully expanded state the beautiful lemon centre is shown off to advantage and the flowers last well. The tree in question had its roots confined to a rather narrow border, but a limited root-run was atoned for by rich annual mulchings of farm-yard manure and copious drenchings with diluted liquid when in full growth. These Roses when grown in moist fruit houses should not be pruned, as they get sufficient moisture without, and too much is sure to produce mildew.

GROWER.

Rose Souvenir de la Malmaison.—I lately saw this grand old Rose carrying a fine crop of blooms and buds in various stages of expansion. Very few of the new and much-belauged Roses give anything in the way of flower in quantity at this time of year. This variety does not appear to advantage at midsummer, it being an autumn Rose, and worthy of a good place for that season alone. This variety appears to do best on the non-pruning system. J. G., Gosport.

Rose Crimson Rambler.—I am pleased to quote from Mr. G. H. Engleheart's note on the above Rose (p. 298) that the opinion expressed by me on the page of Critical Notes in THE GARDEN during July, 1895, is at length reiterated and with emphasis. From the first time that I saw the Rose I considered it over-rated, and subsequent experience merely confirmed that opinion. It certainly, when in flower, produces a mass of blossom, which soon, however, assumes an unpleasing tint. This year I have met with two cases where this Rose has failed to produce flowers—perhaps a doubtful disadvantage. Paul's Crimson Pillar, a beautiful single Rose of fine colour, I infinitely prefer to the subject of this note, while the single white Macarney, quite hardy in the south-west, is a good climber and produces its fragrant blossoms from July until checked by the frost. On October 20 I saw a plant of this Rose rambling over a wall with be-

tween twenty and thirty expanded blooms. The Himalayan Rose also grows well in this district, but, unless in exceptional circumstances, is a very shy bloomer.—S. W. F., South Devon.

Rose W. A. Richardson.—"Philomel" (p. 298) alludes to the great drawback of this Rose, namely, the infrequency of the multiplication of the beautiful orange-fawn tint in the bloom, being transmitted to every portion of the petals. I have not myself seen a single Rose of this variety during the past summer bearing a crop of perfectly self-coloured flowers. On many plants, especially those growing on a south or easterly exposure, scarcely a trace of the fawn was discernible, the blossoms being generally of a dull whitish tint. On shady walls the colour was better, but even in such situations few blooms were to be found in which the outer petals were suffused to their extreme tint with the colouring matter. Doubtless the past season has been a trying one for this Rose, but as such summers seem to be occurring with tolerable frequency, it is probable that the elements will be adverse to W. A. Richardson as often as not. If the colour that gave this Rose its popularity could be always depended upon, there would be no more valuable decorative variety. As it is, I doubt the advisability of planting it in neighbourhoods where it often fails to assume its rightful hue.—S. W. F.

Rose Aimée Vibert.—I should be grateful to anyone who would tell me how to make this Rose bloom. I have tried it repeatedly, but have got nothing but leaves—beautiful glossy leaves and plenty of them, but no flowers—and yet I have seen it in other gardens a perfect sheet of bloom. Last spring I would not allow it to be pruned at all, thinking that might be the secret of its management, but there has been no improvement. The plant is a perfect tangle of shoots, some of which must be removed, but which should it be, the old or the young? At what age does the wood begin to bear? I thought it might possibly be the want of sun which prevented it from flowering, but it certainly could not be so this year. My plant is on a south wall.—M. E. C.

* * * The winter of 1894 is responsible for many climbing Roses not flowering this year, for during that severe time much of the old wood on climbers was fatally injured; the plants were thus forced to send up a supply of young growths from the base. These growths will doubtless be well ripened this year and should produce good flowering shoots next season. Possibly the soil in which this particular plant is growing is too rich. I would recommend that the roots be moderately pruned. This can be done by opening a trench around the plant and severing some of the coarse roots with the spade. Manure in every form should be withheld. Thin out at once a goodly number of the shoots, retaining some of the old ones if quite sound, and some of the ripest growths of this season. These shoots should then be trained on the wall in a palmate fashion. By this means further ripening will take place and the sap be checked next season. Subsequent treatment would be to keep the plant from becoming crowded; retain all old wood possible, and merely shorten laterals each year. About three-year-old wood produces the best flowering shoots.—W. E.

Rose notes.—I read with interest "Philomel's" notes upon Teas and H. Teas under glass. For some years I have advocated the more general culture of the H. Tea section, in which we have far more freedom of flowering than among the H. Perpetuals and Bourbons. This class contains several compact growers, which carry a continuous crop of blossom and occupy but little space under glass. Viscountess Folkestone, Marjorie, and Caroline Testout are still splendid with outside, notwithstanding the almost incessant wet and high winds of the past few weeks. Mrs. W. J. Grant, a cross between La France and Lady Mary Fitzwilliam, is a great improvement upon either as a pot plant. Clara Watson is most pleasing as a pot plant. There have been many additions to the H. Teas during the past four years, many of which are worthy of a place in all

collections. Mme. Abel Chatenay is an extra strong grower, suitable for a pillar or wall, and giving a more constant supply of bloom than any other Rose I am acquainted with. The blooms are of exquisite form, the buds long and somewhat after the colour of those of Maman Cochet. Charlotte Guillermot, Germaine Trochon, Mme. Joseph Combet, Marquise Litta, and Souvenir du President Carnot are newer H. Teas that I can strongly recommend. "Philomel's" suggestion of removable lights has been followed, with the result of splendid late blooms to fill in the void between those from the open and early forced plants in pots. A little protection against inclement weather after the middle of September will secure a valuable crop of bloom from late autumnal growths that would otherwise have failed and been crippled by frost, &c. For this purpose the H. Teas are among the very best Roses we have. "Philomel's" selection is good, but Mme. Abel Chatenay should surely have been placed among the climbers.—RIDGEWOOD.

ORCHIDS.

MAXILLARIAS.

ALTHOUGH a great many species formerly included in this genus have been removed by botanists, and also by garden usage, it still contains several well-marked and useful Orchids, the majority of those in general cultivation belonging to the division bearing large roundish pseudo-bulbs, and producing usually one-flowered racemes. Their culture may safely be taken up by anyone interested in Orchids, for if a few simple details are carried out, they are easily grown, and as a rule free-flowering. Pot culture suits them best, and as they are rather impatient of root disturbance, healthy specimens may have these of fairly good size, in order that, by removing the surface compost as it becomes necessary and substituting fresh, they may be kept in good condition for several years without turning them out of the pots. For the strongest-growing kinds a little good fibrous loam may be added to equal parts of peat fibre and Sphagnum Moss, while weaker plants and smaller specimens should have the Moss and peat only. The roots in most cases being somewhat large and fleshy, it is best to add plenty of crocks and charcoal to this, and use the peat in as rough lumps as possible consistent with the size of the pots. Drain the latter well, cover the drainage with a little rough Moss, and fix the plants very firmly in position. If roots are plentiful and these are likely to be active, there is no need to elevate the pseudo-bulbs above the rims of the pots; on the other hand, small or badly-rooted plants may be so treated with advantage; a better circulation of air will thereby be kept up about them, this being conducive to their free extension and continued health. Always endeavour to repot when new roots can be seen starting from the pseudo-bulbs, for it is not wise to water much at the root after repotting until root action again takes place, and Maxillarias are easily injured by being much dried after disturbance.

Though recognised as cool Orchids they are better after repotting, for a nice genial temperature and moist atmosphere—in fact, a little nursing all round. When well in growth, quite a cool house and shade from bright sunshine, a free circulation of air, and constantly moist atmosphere are the conditions under which they thrive. The temperature must always be kept below 70°, if possible, in the height of summer, while in winter 60° is ample by day when the weather is dull, and 50° or a little over at night. As long as growth con-

tinues and until the pseudo-bulbs are quite finished and hard, the water supply must be kept well up and the roots never allowed to be dry for any length of time. During the resting season the less they have the better, as long as the pseudo-bulbs remain plump, but allow no shrivelling. Their worst insect enemy is red spider, the foliage being very subject to its attacks, especially if growing in too warm a house or in an atmosphere at all inclining to the dry side. The under-mentioned kinds are among the best and most generally grown, though a considerable number of small and undesirable species exist.

M. GRANDIFLORA is at present in flower and bears from the base of the single oval pseudo-bulbs each carrying a flower about 4½ inches across. The sepals, petals, and the greater part of the lip are white, the last marked with bright purple at the sides, the front portion yellow. This species grows naturally high up on the Peruvian Andes, and is a widely distributed plant in Western South America.

M. HARRISONII is perhaps best known as a Lyceaster, but is often met with under the old name. Why this fine old species is not taken more care of is indeed a mystery, for the blossoms are beautiful, sweetly scented, and last an extraordinary time in good order. Even when they have lost their first freshness they turn to a yellowish tint by no means unattractive. The ground colour is white, the lip purple in front, yellowish below, with lines of red and yellow on the inner side. This likes a little more warmth than the majority of kinds, thriving well at the cool end of the Cattleya house. It is a very old species, having been introduced from Brazil in 1828.

M. LUTEO-ALBA is a singular-looking plant when in bloom, the outer segments taking an almost triangular form, the shorter erect petals tawny yellow with a white base. The centre lobe of the lip is yellow with a profusion of short wavy hairs, the erect side lobes being streaked with purple. It grows very freely and has large one-leaved pseudo-bulbs, the leaves attaining a length of about 18 inches on the strongest plants. It comes from New Grenada, and was introduced in 1846.

M. NICORENSIS is a rather uncommon kind worth growing on account of the rich maroon tint of the flowers, though these are rather small. The pseudo-bulbs and leaves are small, deep green, the flower spikes occurring at the base of these. It comes from New Grenada, and was introduced in 1849.

M. PICTA is a winter flowering species, bearing small but brightly coloured blossoms. These are very freely produced, the sepals and petals peculiarly incurved, bright orange-yellow dotted with crimson-purple, the lip white with purple spots. This species is a native of Brazil, whence it was introduced in 1832.

M. SANDERIANA is a really beautiful Orchid and by far the richest coloured and best in the genus. The spikes are pushed horizontally from the base of the pseudo-bulbs and each carries a single flower about 5 inches across. The petals and sepals are of the pure white with deep crimson spots at the base, the lip being of the same rich tint. The effect of this on the pure white of the segments is remarkably striking and the deep green of the foliage on healthy plants shows the blossoms up to perfection. It is a native of Peru, whence it was introduced by Messrs. Sander and Co. in 1884.

M. TENTACULIFLORA is of a different habit from those named above, the pseudo-bulbs occurring on an erect wiry rhizome. These are roundish, shining green, and, as the name implies, bear narrow grass-like foliage. The flowers occur singly on short stalks and are crimson red with yellowish markings. They have a very peculiar but not unpleasant odour which has been likened to that of butter. Its culture may be similar to that given to the other kinds excepting that a little more

Moss may be used with advantage, and care is necessary not to allow the pseudo-bulbs to become swollen owing to their being out of reach of the compost.

M. VENUSTA is a strong-growing useful plant from Colombia whence it was introduced in 1862. It flowers at different times in the year. The blooms have creamy white sepals and petals, the lip yellowish, marked with crimson. It is the easiest of all to grow, never failing to flower when healthy and well established, and the blossoms last well in good condition. R.

Barkeria Lindleyana.—This is a delicately coloured species, producing large erect spikes from the apex of the thin elongated pseudo-bulbs. Each flower is 2 inches across, the sepals lance-shaped, the broader undulating petals pale purple, the lip white with a blotch of purple in front. It does best in baskets of limited size in a light position at the cool end of the Cattleya house. A great deal of moisture is necessary while growth is active, both in the atmosphere and at the roots, so the sponge may be freely potted about the stems. After growth is finished and the leaves fall, a cooler house and a greatly reduced winter supply must be allowed. It is a native of Costa Rica and was introduced in 1842.

Blättae Schapheri.—This is one of the freest flowering and easiest of the Blättae, and by no means unattractive when well done. The long branching spikes push up at various seasons and contain a large number of flowers of a pretty crimson-purple tint on the sepals and petals, the lip being deeper in front with a yellow centre. When the flowers are past the plants must be induced to rest by keeping them cool, and when signs of growth are apparent repotted into fairly large pots in a compost consisting of loam fibre, leaf soil or peat, and a little chopped Sphagnum. The tubers should be kept about an inch under the surface, and the plants do best in quite a cool house where moisture is abundant and a free circulation of air kept up about them.

Spathoglottis Fortunei.—This singular terrestrial Orchid is now in flower, the tall hairy spikes of yellow, brown-tipped blossoms being very pretty and distinct. It is best cultivated in pots, which should be well drained, and the compost may consist of equal parts of peat or leaf soil, fibrous loam and chopped Sphagnum, plenty of rough crocks and charcoal being mixed with this to keep the whole open. There is no need to elevate the plants above the rim of the pots and the compost may be finished a little below, as in ordinary potting. When the growth is well on the move in spring plenty of water is necessary, but during winter, after all the leaves have fallen, the roots may be kept quite dry. It was sent home in 1845 and thrives best in an intermediate temperature.

Oncidium varicosum.—At this time of year Orchids are more welcome than this fine Oncidium with its large and elegant panicles of showy blossoms. They are useful in a great many ways for cutting, or the plants look well in groups, and I recently saw several fine pieces in a group at a local Chrysanthemum show. *O. varicosum* has rough-looking pseudo-bulbs and dark green foliage. From the base of the former the bloom-spikes rise, and these are often 3 inches or 36 inches in length and closely studded with flowers. In the variety *Rogersii* the flowers are each 2 inches across. This name is unfortunately often given to much poorer varieties. The showy lip is the principal part of the blossom, the small sepals and petals being hardly noticeable, though pretty in themselves. It is an easily grown plant, thriving well in the Cattleya house, and it may be well grown in shallow tank baskets with good drainage and a compost consisting of peat fibre and Sphagnum. The growth commences in early spring, and care is necessary that this is made without a check of any sort, either from want of water or insufficient heat. The atmosphere must also be kept moist and the growth well matured by exposure to light and air. During winter less

water will be needed unless when the spikes are forming, as this constitutes a considerable drain upon the roots, and these must accordingly be well looked after.—R.

Dendrobium Wardianum.—The earliest plants of this beautiful Dendrobium are now in flower and make a welcome bit of colour. It is much earlier than usual this season, and the first flowers having opened on November 10, but fortunately a long succession is easily kept up by having a good stock of plants and introducing them to heat a few at a time. It is worthy of remark that the best and most highly coloured forms of this Orchid are not usually so long lived or of such good constitution as the smaller and paler varieties. Those who have these good forms should let the plants have as long and complete a rest as possible and not rush them on for early flowering, which invariably leads to the growth starting and continuing active during winter. Keep them cool and dry as long as no signs of shrivelling occur, and if the temperature does not go below 45°, they will be all the better for a month in a viney, Peach house, or similar structure at rest. *D. Wardianum* likes a very limited root-run, and fine plants with growths a yard in length wreath blossom from one end to the other may be grown in small pans about 4 inches or 5 inches across. Careful attention to watering is of course necessary, as the plants soon dry in such small receptacles. These species ought never to be tied up to stakes, as is sometimes done, but the stems allowed to proceed either horizontally, erect or pendulous, according to the habit of the individual plant and its strength.

Odontoglossum Corradii.—Though the blossoms of this pretty Odontoglossum have not the substance and width of petal that some of the *O. crispum* and others possess, its early flowering habit and the distinctness of the flowers make it a popular plant. Botanists suppose it to be a natural hybrid between *O. triquetrum* and either *O. gloriosum* or *O. odoratum*. The pseudo-bulbs resemble those of the former kind. It produces a many-flowered spike from between the basal leaves, two often occurring upon one bulb. The individual blossoms are each 2½ inches across, the sepals and petals pale yellow, prettily spotted with chestnut-brown, the lip creamy white, with a brownish red blotch in the centre. The plants lend themselves readily to good culture, and when well established grow away freely and soon form nice little specimens. The pots need only be large enough to take the plants easily, a margin of 1 inch or so all round being ample room. The drainage must be brought up to within 1 inch of the rim, and plenty of finely broken crocks, with peat fibre and Moss, may be used for compost. The plants are best reported in early autumn before the flower-spikes appear, as there is then usually a free root action going on. It should be grown along with *O. crispum* in the cool house, as it is a native of Colombia, whence it was introduced in 1872.

Cypripedium Luteum.—Varied as are the forms of this well-known hybrid, they are every one excellent garden Orchids, for not only are the blossoms large and striking, but they last a very long time in perfection, and the plants, moreover, are so robust and healthy, that beginners may take up their culture with every prospect of success. It was originally raised by Mr. Seddon in Meers' Veldt's nursery at Shepshed, where it flowered for the first time in 1884. It appeared in Sir Trevor Lawrence's collection about the same time, and since then a great many varieties have been raised in other places, the result of crossing various forms of *C. insigne* with *C. Speciosum*. The flowers are intermediate between those of its parents, the broad dorsal sepal at first glance showing the characters of each. The ground colour is white, with a medium line of purple spots, and at the base a green suffusion spotted with mauve-purple. The petals and pouch resemble those of *C. insigne*, but the latter is brighter in colour and of a reddish brown tint in front. It thrives in an intermediate temperature, and should be carefully potted in fairly large pots.

The drainage must be good and the compost free and open, consisting of equal parts of peat, fibrous loam, and chopped Sphagnum, plenty of hard material roughly broken being mixed therewith. The roots must be kept moist all the year round.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS AT SWANLEY.

The large show house at Messrs. H. Cannell and Sons' nursery at Swanley is just now a fine blaze of colour, and the collection of Chrysanthemums is remarkable with novelties from all parts of the world. Introductions from the Cape and from Australia are numerous and of great interest, as showing the type of flower that is occupying the attention of the Colonial cultivator. Australia, a big massive bloom, of a dull shade of rose amaranth and a silvery reverse, noted on the occasion of our visit last year, is again very fine, and although rather tall in growth, will undoubtedly be much sought after by the admirers of the Japanese in curved section. Pride of Maidford, another but brighter variety from the same source, is a most attractive show flower, and Ocean, also from Australia is solid and very rich in its deep shade of golden yellow.

In the miscellaneous collection we noticed Matthew Hodgson, a Japanese, of a beautiful shade of chestnut-crimson, with long narrow florets and a golden reverse. Miss Ella Curtis, to be sent out next year, is a large Japanese, golden yellow, dusted reddish carmine, and also Baron Tait, a seedling from Primrose League, deep canary yellow, with rather narrow grooved florets, curly at the tips. Duke of York, Graphic, Lydia Byron, Mrs. Weeks, Edith Tabor, Miss Elsie Teichmann, M. Cheron de Léché and many other standard show varieties were all in good form at the time of our visit.

A. H. Wood, a pretty yellow sport from Primrose League, a large and promising. Wood's Pet, purple-amaranth, with reverse of silver, is quite as fine as last year, and Robert Powell, a large Japanese incurved, chestnut-bronze and old gold reverse, with heavily grooved florets, is quite new and distinct. We also noticed Vice-Admiral Kasnakoff, a large Japanese of a pure golden yellow, florets twisted at the tips, as a promising novelty. Novelties of Continental origin were numerous and mostly well flowered. Phœbus, the yellow Japanese, was very pure in tone. Reine d'Angleterre is of a more decided pink than is usually seen nearer the metropolis. Among the whites, Mlle. Thérèse Rey, Mme. Carnot and Mme. Ad. Chatin were all excellent. Commandant Blusset (fine rose purple) is well known but Australian Gold—Calvats' latest triumph in pale yellows—has only been seen by the general public for the first time this autumn. It is a grand flower, very large, deeply built, and very pure in colour. Baron Ad. Rothschild is a large new white Japanese variety from the same raiser, and bids fair to become popular. Perle Dauphinée, of incurved build, golden bronze, is solid and well formed. M. Ed. André, a Japanese with flat florets, colour dull yellow and golden reverse—is also new. Mme. C. Champenois has large Japanese with florets of medium width, pale rose mauve, is also a recent introduction, and is large and good. Mme. R. Grenier is a distinct Japanese incurved, having broad grooved florets, twisted and curly, colour pure white. Mme. Gustave Henry is of the same colour and section, and has already been certificated this season.

The American seedling raisers are also well represented at Swanley, for we noted fine blooms of Eda Pratt, William Bolia, Duchess of Wellington, Mrs. Henry Robinson, Mutual Friend and several other fairly well-known varieties that have recently been discovered, while among others, Nyanza, a Japanese with pointed, grooved florets, colour rich velvety crimson, yellow reverse, was striking in colour and solidity of build. Major Bonaffon, the new pale golden yellow incurved,

was well done, and J. Agate, the white incurved, was very conspicuous by its depth and massive form, the colour (pure white) being well worth noticing.

There was a fair sprinkling of the best of the hairy sorts both new and old. In this section several of the latest additions are really remarkable for the rich colour they display. This hitherto has not been an characteristic of the class. In this last named section of hirsute varieties Belle des Gardes, of a pale rose pink, is decidedly pretty, and has a curious flabby appearance; Princess Eva has the peculiarity of hairiness very marked, the colour is pale rose tinted gold in the centre; Rachais is a rich golden bronze, reverse very bright gold, one of the best, and Perle d'Or, with flattish florets, is of a pure shade of canary yellow. Some other very curious forms in this class are Golden Hair, Papa Bertin, Beauty of Truro, Mr. W. J. Godfrey, &c.

Most of the incurved varieties are well out, and, of the latest introductions, C. H. Curtis, pure golden yellow, is as good as we have seen it anywhere; Mrs. Hepper, a medium-sized incurved of good form, colour pure white, is shown in several examples; Globe d'Or, deep yellow, is another Baron Hirsch, the Queen, Princesses, Mr. F. C. Kingston, need no special reference. A very fine solid-looking Japanese in the Kentsch White referred to in our notices of the Swanley collection this time last year. Pride of Swanley is another good new white, but belongs to the Japanese group. Minnow, very rich golden chestnut, and Sardou, a velvety plum-coloured amaranth Japanese, are both highly coloured novelties, and very suitable for brightening up a group either large or small. Frank Payne, a charming shade of pale lavender-blush, large Japanese, with florets of great length, will be sent out next year.

Besides the varieties mentioned there are many others both new and old, mostly grown in a dwarf style, and the collection will amply reward a visit for several weeks to come. Zonal Pelargoniums are always a feature at Swanley and are just now a blaze of colour. A house full of Cannas in bloom also forms one of the attractions of Messrs. Cannell's nursery.

Chrysanthemum Ambroise Thomas.—Plants of this variety have kept the hardy border quite bright during the past few weeks, the rich reddish carmine, almost crimson flowers standing conspicuously from amongst those of many other sorts. The plants are freely flowered, having grown without disbudding, and any gardener opposed to the use of the semi-early Chrysanthemum for the outdoor garden during October, after once seeing this variety, could not fail to be impressed with its beauty and hardy constitution. The height does not exceed 3 feet, and the plants are clothed with rich green foliage right down to the ground. Now that the Dahlias and other tender subjects are cut down by the frost these flowers are highly valued.—D. C.

Hairy Chrysanthemums in Belgium.—These were fairly numerous at the Ghent show. The best of them were W. Falconer, pale bluish; Enfant des deux Mondes, white; Mrs. Leslie Ward, a Japanese with long drooping florets, very delicate shade of golden cinnamon or buff, with reverse of bright gold and rather broad florets; Fleur Lyonnaise, rose carmine, with flat florets, reverse golden; Pique mal de Roseville, big, solid flower with sharp pointed florets, colour dull carmine, reverse golden; P. Marieton, golden yellow; Belle des Gardes, rather narrow grooved florets, colour a charming shade of pale pink, tinted yellow, a close, compact flower; Hairy Wonder, very good and rich in colour, rose golden buff; and Vaucanson, deep amaranth.—C. H. P.

Chrysanthemum Cedo Nulli.—The yellow, white, and pink forms of Cedo Nulli I find very useful for decoration in the house. Grown in various sizes they are admirably adapted for placing in ornamental baskets mixed with Ferns, Primulas, and early forced bulbs, the larger-sized plants being just the thing to drop into ornamental pots or bowls. Their bushy habit, while increasing their decorative value, also renders the use of sticks unnecessary. I usually, besides keeping a few old cut-backs for use in larger receptacles and propagating a few at the ordinary season (January), also take a few cuttings from the young stock when they are stopped say in May. These make splendid small bushes in 6-inch pots, which may be used in many different ways owing to their handy size. The pink, white, and yellow forms are all excellent.—J. C.

NOTES OF THE WEEK.

Rhododendron Countess of Derby.—This is a distinct and pleasing variety with trusses of chrome-yellow flowers, the latter having a tendency to become double, though the beauty is not particularly increased thereby.

Pelargonium Soleil Couchant is a very free-flowering variety of the Ivy Pelargonium, with compact trusses of rose-pink flowers. This variety is among the best of those adapted for winter flowering, and is most serviceable in a cut state.

Sonneria Leopold II.—A very pretty, compact, and free-flowering plant, scarcely more than 1 foot high, and bushy without. Its marbled foliage and numerous trusses of rose mauve blossoms render it a very pleasing plant for the warm greenhouse just now.

Rhododendron Cloth of Gold.—This is a fine hybrid obtained from R. Lord Wolesey and R. Teysmanni. The trusses, as also the individual flowers, are of good size and substance. At Westminster on Tuesday last the Messrs. Veitch secured an award of merit for this beautiful form.

Galanthus nivalis octobressis.—This is the only hardy plant in flower at the moment in the rock garden at Kew, where a solitary tuft is bearing a half-dozen or so of snowy white blossoms. A large group of it would prove most acceptable in any rock garden or on any grassy mound.

Camellia alba plena.—This grand old plant has already begun its round of flowering, many of the first blossoms on some fine examples being nearly 5 inches across, and though, perhaps, a little formal-looking, appear in striking contrast to the deep glossy foliage so characteristic of healthy examples.

Carnation Winter Bride.—This is a perennial flowering variety, with pure white blossoms of large size and charming Clove-like fragrance. Happily, too, the variety possesses a fine vigorous constitution and is very free flowering. A notable characteristic is the broad guard petals, the flower being very full to the centre.

Amphicarpus Emodi.—Among pretty flowering plants this is worthy of mention by reason of its freedom of blooming. The plant is of neat habit, and produces flowers of delicate pink and white, with orange throat. For planting on the rockery in the conservatory it is well suited, as quite small plants have been continuously in flower for some weeks.

Aloe ciliaris may be described as a species with climbing habit, producing occasional tufts of growth, each of which in turn produces a small spike about 9 inches long of its Lachenalia-like blossoms. The neat appearance of the spike as a whole is quite distinct from the majority of its tribe, and from the manner it is growing at Kew, it revels in plenty of sun and light.

Jacquemontia violacea.—A beautiful, though frail, climber from Mexico, of neat habit of growth, each of which in turn produces a small spike of flowers after the manner of Convolvulus. It is a pretty and useful plant for the greenhouse that should be more frequently grown, as it requires but little root space, and in this position the plant is quite happy and flowers profusely.

Plumbago rosea superba.—This genus provides flowers of red, white, and blue shades, and

singularly enough, all are chaste and beautiful in their way, and ever the admiration of those who see them. The above variety is now a very pleasing feature in pots, the flowers large and very charming in their delightful rose-pink shade. This plant should always be found in the warm greenhouse for the bright effect which it produces.

Statice profusa.—This is among the most serviceable of greenhouse flowering plants, and one which provides much useful material for cutting. The trusses of bloom are freely produced, even upon small plants, which always makes them of greater value. Cuttings root quite readily if mossed round after being notched with the knife and kept moist for a few weeks with the syringe. Another good plan where quantity is required is to raise it from root-cuttings, by which means very dwarf plants are quickly obtained.

Laportea moroides.—This is the Poison Tree of Queenalanda, though its handsome masses of Mulberry-like berries are scarcely suggestive of poison. Indeed, the dense clusters of fruits are distinctly attractive, and being also of large size, would tend in some degree at least to tempt the unwary. The plant is of erect growth, with foliage somewhat akin to Sparmannia, and the clusters of bright red fruits surround the stem at about 10 inches high, other clusters of unripe fruit occurring at intervals on the stem. A small specimen is now fruiting in No. 7 range at Kew.

Begonia Ensign is one of the pioneers of a probable new race of these increasingly popular flowers, and is the result of crossing one of the tuberous-rooted section and *B. siccotana*. The variety in question is by no means particularly showy as we understand the Begonia to day, but a good deal of interest attaches thereto by reason of the parentage, and doubtless we shall now soon see the better forms of the tuberous Begonia generally, with their infinite variety of colours, infused in greater or less degree into the winter-flowering kinds. In this way such things will prove a great gain to our greenhouses.

Solandra grandiflora.—Among the occupants of the succulent house at Kew this is a most striking plant. A somewhat aged specimen planted out in the large central bed sends its tree-like stem to the roof, and is there trained beneath the ridge to the extent of 30 feet or more, the flowers appearing on the tips of the spur-like branches. The giant trumpet-shaped blossoms are some 8 inches or 10 inches long, the corolla of a somewhat heavy cream shade, the large spreading lobes being beautifully fringed at the margin. Internally the flowers are striped with a dark purple-brown flame, which renders it generally attractive.

Nerine Manselli.—Attention has recently been directed to more than one of the interesting and beautiful members of this race of nearly hardy bulbous plants, and the will add yet one more to the latter section of them. The plant is of dwarf and sturdy habit, and very free-flowering when good-sized bulbs are secured. The coral-pink of the expanding flowers is very charming, and eventually deepens to a warm rose-pink hue. Being a late flowering kind, it is valuable for the succession it gives, and where such things are grown the above should not be omitted. This fine hybrid, which has *N. flexuosa* and *N. curvifolia* for its parents, is now flowering at Kew.

Schizostylis coccinea.—This plant is providing one of the most effective bits of colour in the greenhouse at the present time, and, apart from its decorative value in this structure, it is especially useful for cutting. Few things are of more easy culture, and the flowers, coming at the dullest season of the year, are welcome by reason of their brilliancy, and the length of stem renders them of still greater use when employed in a cut state. The plant is rarely seen in good condition as a permanent pot plant, but if the young pieces are planted separately on a moist rich soil in March a few inches apart, they make capital plants for lifting and potting at the end of

August. Six or eight in a 6 inch pot make very serviceable plants for many purposes.

Lasiandra macrantha.—Why is this plant so seldom met with? It hardly ever in perfection? I have seen it in stock, and in one end of the greenhouse over at Kew, under which treatment it rambles and bears few flowers; whereas one of its natural habitats is 8000 feet up the Andes. It is easily grown and readily struck. I grow it in the greenhouse, standing it in the open air in the summer months, and the result has been most satisfactory. One of my plants in a 10-inch pot has bloomed continuously for two months, and is still (November 20) showing, attracting the attention of every visitor. No Dog Rose bush is more free flowering, and I reckon that the plant, which had a little careful pinching when young to make it bushy, and which stands about 4 feet above the pot, requiring no support, though soft-wooded—had at least 200 blooms upon it, each, as measured to-day, 3 inches across and of an intensely brilliant bluish violet. Every shoot or branch has borne flowers; the soil used is decayed top spit from a sandy pasture, with a little cow manure.—NORTH WEST CHESHIRE.

Autumnal Roses.—Mr. Burrell, in writing of the above on p. 412, invites information as to the best Roses for that purpose. His selection is a good one, but I think that anyone who grows a good collection of the best Teas would find that he had all that could be desired, as the autumn crop of flowers is almost as profuse as the summer one, and nothing can excel them in beauty and fragrance. There is one class of Roses, however, that Mr. Burrell does not mention (the Chinas), which is, in my experience, the most free-flowering of all at this season. I find to-day (Nov. 23) the French sorts as Eugène Beauharnais, Abbé Millet, Cranois Supérieur, Louis Philippe, St. Prix de Bouc, Hôte, and Abbé Melane are a mass of bloom, and give a rich colour to the snug corner they occupy. I find that the best for autumn bloom are Mme. Charles, Sargent, Comte Riza du Parc, Françoise Karr, Jules Ferry, Souvenir d'un Ami, Souvenir David d'Angers, Ma Capucine, Mme. de Watteville, and Marquise de Vivens. Among the Polyanthas, Clothilde Soupert and Etoile d'Or are the best. Gloire des Rosomanes I have a group of on a warm, dry bank, and to look at this one would almost think it was the middle of summer, so beautiful are its bright crimson buds and partly expanded blooms.—G. TAYLOR, Shrubland Park, Ipswich.

BOOKS.

FLORILEGIUM HAARLEMENSE.*

We are receiving numbers of this from M. De Erven Loosjes, but regret to say that, like many other gardening books, everything in it is drawn as stiff as a lamp-post, with mostly an unclean yellow background to the plates, which are over-crowded and ill-drawn. It is a pity so much money should be spent on book of this sort without getting even a shadow of the natural grace of the plants.

A BOOK ABOUT ROSES.†

We are glad to see a new edition, the fifteenth, of Dean Hole's book on the Roses, which shows at once the love of the English people for the subject and the able manner in which the desire for information about Roses is met. This time the book is illustrated by drawings of certain pretty Rose gardens, which is a very good idea. The drawings are much better than most drawings of the kind, but, like many engravings of the time, they are reproduced by a process not so good. We

* "Florilegium Haarlemense." Haarlem : De Erven Loosjes.

† "A Book About Roses." By the Dean of Rochester. London : Edwin Arnold, Bedford St., Strand.

do not much care for the division of things into garden Roses and not garden Roses. Every Rose worth growing is a garden Rose, but we know it is the way of the trade at present. There is an amusing sketch of John Leach's, who was a friend of the Dean in past years, as a frontispiece. The Rich hedge in the Deanery gardens at Rochester is a very pretty drawing, and we hope in future editions drawings of this kind will be developed to show the beauty of the Rose in the garden. The rich, cool soil at Caunton was more loved of the Rose than the warm Kentish valley soil, but we are glad to see the Dean keeps on with his Roses.

TREES AND SHRUBS.

EVERGREEN TREES IN FOREST OR WOODLAND.

HAVING recently endeavoured to show the greatest error in English planting, the using of large plants instead of the small ones of the true forest planter, and the waste and disappointment in planting trees so large, that any true forester would burn them as rubbish, we now wish to say some words on another great error, and that is the use of trees not fitted for our country. Owing to the fat catalogues of conifers, the idea has been created in the public mind that there are a number of exotic forest trees which are worthy of wood and planting which really have no merit for it whatever, and a great deal of money has been wasted in planting such trees. Many exotic trees, such as the Wellingtonia, have been planted in pleasure grounds over a large area in England, and, we think, with poor results, but when we come to select trees for forest planting and get a catalogue with numerous varieties and species absolutely unfitted for our country, or unsuited in it in any forest sense, then it is we have to guard against waste in planting. Even the presence in pleasure grounds of fine trees like the Douglas Fir should not encourage anybody to plant more of it in woodlands, because the gardener's way of growing such things is absolutely distinct from the conditions the trees must face in the open country. Sturdy old Philip Frost, with his hundred loads of good sound loam beneath the Douglas Fir at Dropmore, was a picturesque figure, and the result interesting, but what would become of such a tree with the poor chalky soil of that district left to itself? Making a deep hole and filling it with rich loam not only alter the nature of the soil, but in face of a light rainfall the moisture gathers and saves the tree, which on the natural soil would soon starve, so that we must not now think anything of pleasure ground "specimens," and if we want to plant evergreen woods we must look to the trees of Europe and the countries which come nearest to it in climate and character.

As to the value of the timber, some of the Pines of Europe may at present a very low value, but that should not greatly influence any planter, because before any trees planted now have grown into timber the conditions of the timber trade will probably have altered. There have been instances in our own day of timber which at one time was worthless quickly becoming of considerable value; and any clean, well-grown wood of the Pine will in the future have value enough to justify its cultivation. There is another reason why we should not plant things unfitted for our country, and that is, that healthy timber can never be produced from such trees. For instance, it is quite common to notice the things so popular in nurseries now and thriving for a few years under the good preparation that

they get, but after a dozen years, or perhaps a few, we shall never probably get anything better, generation, they dwindle away and go back. take it all round. In a tree of such a vast range

Our native Fir is not only amongst the very of distribution as the Scotch Fir there are
hardiest of Pines, but it is perhaps the most various forms or reputed varieties, some pre-
beautiful of all in its old state, and therefore ferring the true Scotch type. The Riga form

is said to be superior—a tall fine tree—but it is much more difficult to get in quantity, preferring cool soils, and the form best known is the ordinary German one.

Next to that, perhaps, the tree most commonly planted in Britain is the Spruce, but, unfortunately, it does not deserve its popularity, for with our often low rainfall and the tree being a mountain one, with often snow around its feet all the winter and far into the summer, it gets starved on our poor dry soils, though happy enough in wet bottoms and in the wet, peaty soils of the west of Ireland and Scotland, and by river banks and moist places anywhere. Still, it is not a tree like the Scotch Fir, that one can trust everywhere, and should only be planted where the soil suits it.

The Silver Fir of Europe is a noble tree, picturesque, hardy, very tall, massive, and when growing close together giving an enormous mass of wood, as we see it in its native mountains in Central Europe and France, propagating itself naturally in abundance, growing in the poorest mountain soil, and in Britain attaining a stature of over 100 feet. This tree should never be forgotten by a planter, and, above all, a planter who has to deal with poor mountain ground and who does not much want to think about the quality of the ground he is planting.

Although not so extensively tried in Britain, by any means, as the Spruce, we must place next to it, among evergreen trees, the Corsican Pine, which has not been planted nearly so much in Britain as other Pines, but we have often seen it as a stately forest tree in poor soils in France, where its growth is greater than that of any other evergreen tree. So it appears to be in Britain, as many of our own trees, even in the recent hot years, have grown 2 feet and even 3 feet apiece where the soil is at all favourable. Within the last



The Silver Fir in the Austrian Alps. From a photograph sent by M. Louis Kroyatsch, Imperial Gardens, Vienna.

few weeks we have visited handsome woods of this tree of the greatest beauty at Les Barres, in Loiret, and were struck with the dignity and beauty of the tree and its fitness for our climate. It is said not to be eaten by game, and under this pleasing delusion we planted a few acres of it in a very rabble place, with the result that we lost quite two years in the growth of the plantation and a great number of trees. Side by side with the Scotch and other Pines, undoubtedly rabbits do not eat it—at least at first—nearly so much as the other Pines, but they injure it very much in our case, and in places where such things are numerous it would always suffer in the end in a bad winter; so the best way is to give the rabbits and hares no chance, but wire before planting. The Corsican is the Pine which extends into Calabria, and the Italian variety is said to be even more remarkable for its fine stature; but, considering the stately woods of the true Corsican we have seen, we could not wish for a better tree. Certainly both deserve a trial, the Calabrian being somewhat the more difficult to obtain. We have no reason to believe this Fir would object to the ordinary soils of Britain, but those we have seen thriving best are in gravel and sandy soils of poor nature, and it should not be tried in very calcareous soil.

After this, perhaps, for poor soils, the Black or Austrian Pine is one of the most useful trees. It is very popular in our pleasure grounds, where it is often grown as a specimen, but the fair way to try the tree is shoulder to shoulder in a wood in the way it grows naturally, and in that way it shows its true character and growth much better than when it is set out in pleasure grounds. Coming from the cold mountains of Central Europe, we cannot doubt its hardiness. It may be planted with advantage near the sea, and it will resist as well as any Pine, storms and high winds. It also, like the Silver Fir, is not particular about soil, objecting, however, to deep peats of an acid nature, and it has the merit of growing in the poorest calcareous soil, which will make it useful to those occupying such rather numerous places in the south of England.

It probably is not quite so good for timber where Scotch or Corsican will do, but perhaps some of our readers may be able to tell us of its value in its own country in Central Europe. In our pleasure grounds it is encouraged to branch from being planted in the open way of specimen trees, whereas its true nature, like that of most Pines, is to grow close and to throw into the trunk the strength which is wasted in the branches in our pleasure grounds.

Among the Californian trees which are suitable for our country, perhaps the most tried so far is the Douglas Fir, but we cannot see that the trials made up to now in England confirm the hopes of it, although we do see it thriving well occasionally here and there, especially in open, free soils in the west country, in Ireland, and in Norfolk. The Menzies' Spruce or Fir, we think, however, sometimes called a variety of the Douglas, is at least as well worthy of planting as the Douglas. We have seen some plantations of it on our cold eastern coast handsome in colour, tall, and rapid in growth with fine effect. The fact of its having been introduced into the State forests of Prussia is also a point worth noting. It should be tried in light and open soils.

A tree that, we think, deserves more encouragement, apart from its use in pleasure grounds, is the Cedar of Lebanon, a tree of great beauty and interesting associations, which

may almost be said to come nearer in geographical distribution to European trees, because, after all, the mountains of Asia Minor and those of Africa are not so very far away from the mountains of Southern Europe, and when we went among the Cedars of Lebanon and Atlas in their native homes, we found among them Hawthorn in flower, our native Yew and other flowers and bushes of English woods, showing the close connection between the mountains of Africa and Asia Minor and those of Europe. Therefore we think the Cedar of Lebanon might often be planted with advantage as a woodland tree, planted as thickly as any other Pine and allowed to grow rather close together when grown up together, but never so close as to weaken the stem. Then we should get in this noble tree a mass of timber which would probably equal that of any other Pine we grow. There need be little doubt about its hardiness because there are trees over 200 years old in England perfectly happy even near smoky cities, and there are noble specimens in many of our parks, like Goodwood, Pain's Hill and elsewhere, which have withstood the snows, frosts and tempests of many winters, but shoulder to shoulder in a wood they are under still more favourable conditions for resisting these troubles.

The Deodar Cedar of India is, on the other hand, a tender tree, and should never be planted in woodland work, though Mr. Simpson says it grows well at Wortley at a height of 600 feet above the sea. At such an elevation trees like it and the Monterey Pine that perish in the lowlands sometimes escape, but in forest planting no tree which is tender anywhere in Britain should be thought of.

The last of the Pines of high importance for woodland and forest planting in our country is the White Pine of Canada, called in our country the Weymouth Pine, but which is better called by the English name given to it in its own country, where it is a notable tree, one of the hardest and handsomest of the Pines, and where it does well; but in some way in England it is not often very happy. Clearly, certain of our soils do not suit it, though it may be seen doing well here and there. We hear it is giving good results in Germany.

We stop here because, although there may be other kinds seen occasionally in our pleasure grounds that invite the planter to experiment with them on a large scale, for the most part they are not yet sufficiently tried in woodland work either as to their growth or hardiness. Still less have we any confidence in their value as timber or of their power to resist our early frosts, fatal to so many trees of the high mountain forests.—*Field.*

Beech trees in Oxfordshire.—The article in a recent number on Beech trees induces me to send you a few lines. When you are next in North Oxfordshire, I hope, if you have not seen it, you will go to Cornbury Park to see a magnificent tree, finer than those in Scotland mentioned in the article. It is growing near the park wall, not far from Crannel Gate and near the glorious avenue called Beech Row. Its stately beauty would well repay a very long journey.—F. A. STURGE.

Copper Beech.—Referring to paragraph p. 367 in THE GARDEN, November 7, signed "R. C. H." about Copper Beech, I beg to say there is a large Copper Beech at Bell Hall, five miles from York, of which the proprietor, Mr. Baines, gave me dimensions several years ago: height 68 feet; girth a 2 feet, 10 feet 4 inches; spread of branches 72 feet. Having recently visited Bantry Bay, I saw there *Phormium tenax* in large clumps. The *Desfontainea* and *Abelia*

trifolia grow well out of doors.—GEORGE CRAWHALL, Burton Croft, York.

Coated climbers at Garton.—The west front of Ganton Hall presents a very attractive appearance each autumn from the variety of ornamental climbing plants which adorn the walls. These have been planted so as to secure a happy combination of colour, the varieties of Amelanchier, variegated Ivies, and the old Virginian Creeper contrasting well, the white bricks showing up well as a background. Many people have an objection to the dense varieties of Ivies on dwelling houses, from the idea that they encourage damp, although others have quite the opposite idea. The subjects above named, however, can be used without the least fear of harm in any way, most of them being deciduous during the winter months. The labour attending them is very little, as most of them cling naturally to the walls, while a little tying about twice during the growing season suffices for the Virginian Creeper. Many a formal, unattractive building might be made attractive during summer by these in their green, and during autumn in their coloured state.—C. C. H.

The Spindle Tree.—The white berries I send you were taken from a single shrub growing in a large wood among a great many shrubs of the red variety. I believe this is the common Spindle Tree, but would be glad to know its correct name, and whether the white variety is of common occurrence. The appearance of the white bush was most beautiful, the ivory white fruit and orange-coloured seed pods looking far more as if they were covered with flowers than with fruit, and it certainly seemed worthy of a place among the choicest shrubs. The leaves on the white variety were green, while those on the common variety had turned claret colour. The bush was about 5 feet high, but could not have been more than four or five years old, as in every part of the wood the undergrowth is cut down once in seven years, and the part where the white bush was growing would certainly not be cut for another two or three years judging from its height at present.—M. C.

* * * It seems a very interesting variety, and we should have been glad if you had sent us leaves of both. As we presume it is gathered in an English wood, there cannot be much doubt about its being the common Spindle Tree. It would be advisable to save the seed of the white variety.

Veronica Purple Queen.—This shrubby variety of Veronica, which originated with Messrs. Veitch, is just now flowering profusely, and it is very useful at this season of the year for conservatory decoration or in the milder parts of the country as a shrub in the open ground. It is of a compact, freely-branched habit of growth. These different varieties of Veronica which have originated from the crossing of two or three species are all very pretty, and differ from those common flowering qualities, while there are now several distinct shades of colour among them. One of them, imperialis, is very effective by reason of its conspicuous clusters of rich reddish amaranth coloured blossoms, while other good kinds are Jardin Fleur, carmine-red; Celestial, pale blue; Reine des Blanches, white; Blue Gem, a very dwarf variety with pale blue blossoms; Bolide, reddish; Eveline, rosy lilac, and Crème et Violet, pink. The readiness with which these Veronicas can be increased from cuttings, their naturally bushy growth, and their profusion of blossoms which are spread over such a lengthened period render them, in conjunction with their robust constitution, a very desirable class of autumn-flowering plants. Among other features, they hold their own better than many other subjects in smoky districts; hence in towns where there are so many small conservatories they are extremely useful, and in London as window plants they are very general, for though in many instances, from the absence of direct sunshine, they do not flower well, yet the foliage is always bright and cheerful, despite the hardships they have to contend with. The winters in London,

too, which are less severe than in the open country, do not often prove fatal to them, for if cut back they, as a rule, quickly recover with the return of spring—that is, if the roots get their due share of attention, which is by no means always the case. Veronicas form a dense mass of roots and are liberal feeders, which should be borne in mind when they are grown altogether in pots.—T.

FLOWER GARDEN.

HARDY ARUMS.

THOUGH not beautiful in the true sense of the word, the various species of Arum that are either perfectly hardy or with a slight protec-

tion especially if the soil be a sandy loam. The plants are usually increased by division of the root, though seeds will also be found useful when it is desired to freely naturalise any of the species in the woodland or shrubbery. The following are among the most useful of the hardy kinds:—

A. CRINITUM, represented in the accompanying illustration, is one of the most grotesque of the hardy species, and of its remarkable bearing a good idea may be gathered from the picture. This species should always be planted in warm and sheltered positions where some natural protection may be afforded it, as it is not perfectly hardy in all winters. One of the most distinct features of this species is the great size of the spathes and the remarkable way it is mottled or

yellow hue, the club-shaped spadix yellow. This species is also very pretty in the autumn when its clusters of berries are fully matured, when they are of a bright scarlet hue, and for this reason it is one of the most useful for introducing in rather moist spots. There is a variety of this plant called *A. i. marmoratum* in which the marbling of the foliage is more clearly defined.

A. MACULATUM.—A distinct British species with hastate sagittata leaves, the spathe nearly erect and spotted with dull purple, the spadix somewhat similar in colour. The species is scarcely a foot high and well adapted for the wild garden.

The other hardy kinds of more or less interest are, *A. Dracontium*, *A. orientale*, *A. tenuifolium*, *A. variolosum*, &c., all of interest in their particular sphere in the woodland or similar places in the garden.—E. J.

Mr. Walter Laidlaw, the Abbey Gardens, Jedburgh, sends us the following re the variety figured:

The Arum grew in the Abbey Gardens, belonging to the Marquis of Lothian, in a border having a southern exposure and containing an excellent variety of herbaceous plants. It bloomed for many years and was much admired by visitors to the Abbey, few of whom had seen the plant before. Unfortunately it was destroyed by frost during one of our severe winters.

Anemone Lady Ardilaun.—I agree with "S. W. F." that the pure white Honoree Jobert is difficult to beat. It seems also impossible for any variety to bloom more freely or over a longer period. Neither are double or semi-double flowers necessarily more beautiful than single ones. Suffice to name Narcissi and Snowdrops to the contrary. The greater staying powers of double flowers is a strong point in their favour, but the flowers of Honoree Jobert cut fresh are by no means fugacious, and a good many of us have no wish to see our Japanese Anemones develop into bachelor's buttons.—D. T. F.

I had *Anemone japonica* Lady Ardilaun from two of the leading north country nurseries. One was a fine variety of Honoree Jobert, leaves larger, of much more substance, and florets more numerous, but certainly no double row; in the other the foliage was small, the flower semi-double and small and insignificant. I believe the latter was either Whirlwind, the American variety, or one I have seen described as Lord Ardilaun. Unless it improves it is not worth growing, while the other is a decidedly fine variety of Honoree Jobert.—J. R. D., *Reigate*.

Wallflowers.—It is well worthy of note, and shows how closely public taste in flowers remains faithful to old favourites, that in spite of the introduction of so many other attractive things, Wallflowers remain as popular as ever. They early give up the show at a deficient perfume, and they are easily raised from seed and grown that any one can have them good. I notice that in the market field's the blood-red, so highly favoured, shows very sturdy growth, and if and very severe weather ensues should bloom finely later. Owing to the long spell of summer drought the plants are not so large as is usually the case at this time of the year, but they are very bushy and sturdy. Wallflowers manage to exist during drought with greater facility than most plants, but in their wild state being capable of growing freely even on old walls where moisture is of the smallest, it is obvious they can find sufficient for existence if not to promote strong growth in cultivated soil. Their ample leafage no doubt materially helps the plants to endure root drought. If the autumn rains have in rich soil generated growth that is soft and sappy, no harm and perhaps much good may be done by lifting the plants by the aid of a fork with a cluster of roots, and again planting them, as the check resulting will help to harden both stems and leaves. Large numbers of both crimson and yellow Wallflowers are lifted at this time of the year and used to fill beds otherwise vacant. It is surprising how little



Arum crinitum. From a photograph sent by Mr. Walter Laidlaw, Abbey Gardens, Jedburgh.

tion may be grown in the open garden are undoubtedly striking in their general aspect as well as singular and interesting. The "Lords and Ladies" or "Cuckoo Pint" of our hedge-row or copse is familiar to everyone who knows anything at all of country life. Indeed, this very plant is not without its attractive side when the scarlet fruit has attained its full colour. Taken as a whole, the best positions in the garden for these things are the margin of the shrubbery, the woodland in such parts where the Ivy carpets the ground, or in any spare nook in the hardy fernery. In any of these positions the plants will be at home,

freckled. A native of Syria, Mesopotamia and other parts.

A. DRACUNCULUS (common Dragon).—This species is of taller growth, attaining to 2½ feet high when in good deep soil and a suitable position. It is a very curious plant, the stem heavily marbled with black, as are also the leaf stalks, the growth more erect, the spathe ovate and pointed at the tip, and of a purple brown colour. South Europe, &c.

A. ITALICUM is a useful and pretty kind by reason of its variegated leaves that each attain a foot or more high. In greater part the cordate, hastate leaves are dark shiny green, and occasionally blotched white. The spathe is of a greenish

the plants suffer if firm though small balls of soil and roots be preserved, and the replanting be done speedily and with care. A few of the older leaves may fall, but new leafage soon results. With soil now moist transplanting may proceed with assured certainty of success. The blood-red variety, and the deeper in colour the better, still remains the most popular. Good yellow selfs are now favoured, but bi-coloured varieties though pretty are less cared for.—A. D.

PLANTING DELPHINIUMS.

From my experience in the cultivation of the Delphinium, I cannot agree with Messrs. Kelway and Son at page 353 of THE GARDEN with respect to planting. A most important item to a large number of amateurs, and for whose guidance I consider the statement, "They may be planted at any time of the year," stands in need of some modification. At the outset it may appear superfluous to call in question any statement made by Messrs. Kelway. Yet, notwithstanding, I am fully convinced that many failures would ensue if such a dictum were adopted in all gardens and in all soils. Indeed, I could give references to particular localities in Warwickshire, Nottingham, Cheshire and Gloucestershire where on heavy and somewhat cold and retentive soils, and by reason of an apparently never-ending multitude of small black slugs which greedily devour the crowns of these plants in winter, the general collection of named Delphiniums is only preserved by special care and attention each year; and not only the named kinds, but often the most vigorous seedlings are attacked in the same way. For this reason it is by no means generally safe to plant on such soils during the late autumn months or through the winter season at all, and to do so is to court failure. Nor is it only Delphiniums that suffer, for Pyrethrums are frequently so weakened thereby during winter, as to seldom recover to do any good. A very extensive collection of the latter in a large midland nursery was destroyed after many trials to keep the pest in check, and from information afforded me respecting them a fresh stock had to be secured every year or two to maintain a supply. The method adopted by myself and others who have had to contend with so persistent a foe has been to freely dress with soot and lime about the crowns, particularly the former, which may be freely and frequently dusted about them with good results. Doing this and covering the crowns completely with small coal ashes are the best means of securing the plants during the winter months, for it is at this time the mischief is done, and not when the plants are making free growth. Doubtless a good dressing of gas-lime, where the ground could lie vacant a while, would clear the ground to a great extent, but its use is dangerous in a flower garden or small nursery where every inch of ground is needed. In the latter the best means is the soot, or where a few clumps are grown it is a capital plan to clear away the soil about the clumps in autumn and burn it, for there will often be numbers present, or throw the soil into the fowl-run or to the ducks. By replacing the soil with wood ashes, or coal ashes and soot, much may be done to keep the plants safe. In other districts the plants grow with great freedom and vigour, and apparently suffer in no wise from disease or any animal pest. In this part of Middlesex these splendid perennials do grandly, and with a little extra care and manuring I have produced some of the finest spikes I have seen. The best results are always to be secured by good plants from the open ground, as these invariably possess one or two

good stout roots that soon make a capital plant. The only advantage of pot plants is that of permitting planting over a more lengthened period. At the same time those who desire to get the best results should plant early in the year, and thereby secure the full growth of the year in the ground to the newly-planted subjects. In all cases where pot plants are received, and especially those that have been potted up for nearly a year, the plants will be best if carefully shaken out or washed out in water and then planted. If planted in the hard ball of earth they are quite likely to remain so for the season. I always used to plant in spring, and it may be taken as a good time, from the fact of many leading growers of the flower cutting up and potting their plants at this time, at the moment the growth began. At this time not only can it be clearly seen where to divide to the best advantage, but the growths that cannot be detached with roots from the parent clump will often root in a cold frame if secured with a heel intact. In this way I have rooted hundreds of the choicer kinds during the past twenty years or so. Plants cut up and replanted, where this is necessary, when the new growth is 3 inches long may be firmly planted in richly manured ground at once, leaving just the point of the shoot well above ground. Good pieces with a strong single growth in good ground will make fine plants in the first season, and being invariably furnished with two to four buds at the base, will make noble specimens the following year. Indeed, it is at this flowering, in the hands of a good cultivator, that the best spikes are furnished. Where the plants are intended for decoration generally they may remain longer, though the fact of their being grown from seed should never be lost sight of for a moment. We have a group of perennials that can vie with the Delphinium, *Hampton Hill.* E. J.

Crocus Scharojani.—Can any reader of THE GARDEN tell me whether this yellow autumn Crocus still lives in England? Ten years ago there were some in a border at Kew flowering in August, but I have heard that they have since been lost. I believe the bulbs were sent to Kew by Mr. George Maw, who obtained them from the north-east of Asia Minor, near Stauras, as recorded in his monograph of the Crocus. Five years ago another amateur gardener joined me in a rather costly endeavour to obtain through a correspondent at Trebizond some Crocus Scharojani from the spot indicated by Mr. G. Maw. About 400 Crocus bulbs alleged to have been collected there were sent, but few recovered the effects of the journey. I judged most of those sent to be C. cancellatus, as the bulbs did not show the characters of C. Scharojani. However, half-a-dozen of them flowered for the first time last September and proved to be C. vallicola, which Mr. Maw mentions as growing mixed with C. Scharojani near Stauras. I sent add. to my Trebizond correspondent told me that yellow autumn Crocuses were common near Trebizond, and he sent me some bulbs; they proved, as expected, to belong to some species of Sternbergia, and as those never flower in my garden, I forwarded them to Kew, but I have not heard whether they lived or what species they belonged to.—C. WOLLEY DOD, *Eden Hall.*

Daturas in the open.—In his "American Notes" (p. 345) Mr. W. H. Taplin tells us that at Philadelphia, *Datura (Brugmansia) suaveolens*, as well as *D. cornucopiae*, grow and flower out of doors with great freedom, but questions whether the average English summer is warm enough for their needs. It would seem from Mr. H. C. Prinsep's note (p. 384) that the latter variety, when brought on quickly and planted out in June, flowers freely, while I have seen several instances where *D. suaveolens*, with its handsome white

trumpet blooms, formed most attractive open-air pictures. I presume that Mr. Taplin in his note refers to *Datura* planted out in the sun, and not grown in the open all the year round; indeed, the fact that in his neighbourhood *Hydrangea* Hor. when unprotected, is frequently injured by winter-accident, while rarely or never happens in the south of England—would seem to preclude the possibility of this course being pursued. I have, however, known in a particularly shaded garden in South Devon, a plant of *D. suaveolens* which remained uninjured in the open ground for at least three years, as well as other cases where this subject has survived the winter, and have no doubt that there are not a few favoured spots, both in that country and in Cornwall, where this plant would withstand the winter. Even in localities where these *Daturas* may be left *in situ* during the winter, the garden will be better embellished by the planting-out of well-wooded specimens in June, as the old plants are so backward in producing leaves and blossoms, especially the latter, that the autumn is often upon them before the commencement of their display. The large bushes, almost trees, of this *Datura*, often to be seen in South African gardens, are when in full bloom a glorious sight, and at night, when the great trumpets of the Moon flowers, as they are called, gleam palely beneath the southern cross, the air is heavy with the odour that pours from countless throats, and overpoweres for the time the perfume of *Gardenia* and *Tuberose*.—S. W. F., *South Devon.*

HARDY PRIMULAS.

PERHAPS the following notes founded on personal observation as an addition to Mr. F. W. Meyer's interesting article on the genus *Primula* in THE GARDEN, November 7, may be deemed worthy of insertion:—

PRIMULA ALLIONII.—This is decidedly a rare Primula from higher ranges of the Maritime Alps (it was unknown to Allioni himself), mostly found growing sideways or even head downwards on rock walls. Travellers proceeding from St. Dalmas de Tende in the direction of Nice will see a wall of vertical cliff on their right easily accessible. Along this old road is Allioni's *P. allionii*, another rare plant, but indeed the whole of this region of the Maritime Alps abounds in rare plants. *Cephalaria rubra* is a common plant among the limestone rocks.

*P. CALVINIA, OR RATHER *C. LACUNOSA* (Moret).*—This may be found on the mountains about the lake of Como at no great height, provided it is looked for on moist grassy slopes with a north aspect, as, for instance, on the south bank of the plain of Asino running up behind Varenna. It flowers there about the end of April, quite colouring the sward with its lilac blossoms.

P. MARGINATA.—The common *Primula* from the Col di Tenda southwards, flowering early or late according to height above the sea. The flower is of a much deeper colour in the morning than it is in the evening after being exposed to a hot sun all day.

P. PALINURI.—I have always looked upon this plant as peculiar to Cape Palinurus. I have never been there, as the place is somewhat inaccessible to tourists. The specimens I have seen in collections have always seemed to me an alpine *Auricula* which had become somewhat modified in form during a long separation from its alpine congeners, the flowers having become smaller owing to the absence of the abundant moisture of the Alps.

P. ELEGANTISSIMA will be found flowering abundantly on the Italian slope of the Mont Cenis at the end of May and beginning of June, I do not see why it is not as good a species as any other. At any rate it is only a variety of *P. villosa*, it has lost its viscosity. *Primulas* seem to have a habit of growing in areas, and in each area the *Primula* peculiar to it is the common one.

P. VISCOSA = VILLOSA = HIRSUTA.—Under these trivial names two very distinct plants are con-

founded. *P. viscosa* (Allioni) grows about the baths of Valdieri. It is a largish leaved plant; the flower-scape is as big as that of a Cowslip and has a marked odour of Geranium. Robert Antonius Bitman does not like it so. This Plant will stand a great deal of heat. Of a patch of it grows on a rock by the wayside near the village of Fontana, on the road which leads from the gorge of Saorgio to St. Dalmas, where it must be exposed to heat much greater than that of an ordinary English summer. A plant taken from this patch was figured by Mogridge in his "Winter Flora of the Riviera" under the name of *P. latifolia* (La Peyrouse). This was afterwards acknowledged to be a mistake, as the true *P. latifolia* is confined to the Eastern Pyrenees—so, at least, that most accurate botanist, the late M. Edmond Boissier, considered. According to the law of priority, I suppose the name *viscosa* must stand for this plant, which is a pity, as it is nothing like so viscous as

P. VILLOSA, or *HIRSUTA*.—This plant is the common Primula of granitic Alps. Visitors to Stress or Baveno may easily obtain specimens in a day's walk by climbing to the top of the alp which rises behind those places. On the top, seeking shade as much as possible, they will without much fatigue find patches of this Primula, but it will be out of flower by May 1. This Primula runs straight up hillsides, though it is most viscous, and, unless kept separate from other plants in the vacuum, will speedily pick up such of their characteristics as are easily detached. It is clearly Allioni's *P. hirsuta*. No mention has been made of

P. SCAVEOLENS, which most botanical works put down as a distinct species. I look upon it only as a southern form of *P. veris*. It has rather larger flowers, of a paler yellow than the common Cowslip. A great point in made of the calyx standing out from the tube of the corolla, but I have certainly observed specimens of the common Cowslip approaching this form. SHERBORNE.

Sherborne House, Northleach, Glos.

VIOLETS AT NORTHAW HOUSE, HERTS.

For many years Mr. May has paid much attention to Violets, and he could now gather enormous quantities of this delicious flower. The variety was Maria Louise, and upon inquiry as to what other varieties were grown, I received the reply, "No other." The grower stated nothing was easier to grow than Violets. Mr. May places much stress upon summer growth and less upon forcing at this season. Only ordinary frames were used, and there was no forcing in any way, merely shelter. The plants are procured in the usual way from offsets in the spring, and to this Mr. May pays more than ordinary attention. No plants infested with insects are used for stock. The offsets are planted in rows in land well manured, and with more room than is usually given, with due attention to moisture. This latter is important, and a dewing overhead with a fine rose water-pot after a hot day, though trifling details, would save red spider, one of the worst pests the Violet is subject to. Mr. May thinks that the reason the plants are heir to care to be feared during summer growth, and if good plants can be secured for autumn lifting there is no lack of bloom in the winter and early spring. In light soils an important point is moisture, as lack of this is such a summer as we have recently experienced would be fatal to the plants. They make slow growth and are weak and flowerless. Mr. May mulches freely to retain moisture, and uses decayed leaf soil. The roots ramify into this, and with ample moisture they make extra fine clumps. During the summer months there is no lack of food in the way of liquid manure. This is not given till the plants have made some progress and are forming new crowns. As regards date of planting, much depends upon the season, the size of the offsets, and other details. The plants are lifted in September into cold frames, the space between the plants being filled in with fine leaf oils. No bottom-heat is employed. I saw a long

range of frames, fifteen to twenty lights, in various stages, some of the later plants being grown specially for succession. In frosty weather ample covering is provided with free exposure in fine weather; indeed, Mr. May lays much stress on exposure, as he thinks plants not codded in any way produce the best blooms. G. WYTHES.

ANEMONE JAPONICA AND ITS VARIETIES.

So much has been written during the last few years about the white and coloured varieties of the Japanese Anemone, and their value as garden plants is so fully recognised, that it is unnecessary to direct attention to their merits. Their only fault was, that, by reason of their persistently refusing to produce seeds, they gave the hybridiser no opportunity of exercising his skill upon them. During the past fifteen years I have had many hundreds of the white and coloured forms bloom, and never in a single instance have I seen the slightest indication of seed forming. What could have induced one single bloom to form and perfect seeds after such a long period of absolute sterility it is impossible to say, but the long spell of barrenness was at length broken, and the varieties named Lady and Lord Ardilaun were the immediate result. With respect to the former, I am obliged to come to the conclusion that it is not a plant for every garden, and I much doubt if it will ever become really popular. It evidently possesses an element of weakness, which in some soils is so pronounced as to render it practically valueless. With me it is affected much in the same way as the old white Lily is so frequently affected. In the spring of last year I procured some plants from the raiser. These were put out in ground that was well manured and otherwise in good condition for planting. The plants made fair growth, but when the flower-stems pushed up, the leaves began to look rusty, and by the time the first flowers expanded they looked very miserable. In reply to a note in THE GARDEN, the raiser stated that a too heavy coat of manure would apparently cause this discolouration of the foliage, so this year I gave my plants nothing in the way of stimulants, with the result that every leaf turned brown in July, and by the end of the month the plants looked quite dead. This is the more striking, as the older kinds flourish exceedingly with me, and the newer, i.e., Whirlwind, growing within a few yards of Lady Ardilaun, has been remarkable for its healthy appearance. There can be no doubt that Lady Ardilaun is much inferior to its parent in stamina, although probably this element of weakness will not be so apparent in soils that may happen to be very favourable to hardy flowers generally. Of the variety called Lord Ardilaun I have a very different opinion, and I cannot understand why this was not selected for special distribution in preference to its companion. The flowers are as double, as large and pure as those of Lady Ardilaun; it is with me even more free-flowering and is apparently as vigorous as the old white form. It is evidently a fine thing and will, I think, take a front place among late-blooming hardy flowers. Whirlwind, which came to us from America, does not seem to have become popular, and I must admit that at first I thought it worthless. Grown in rich soil it makes very large leaves of a rich deep green, and the individual flowers are, I think at least, distinguished by the enlargement of the calyx, which projects beyond the corolla and is like a miniature leaf. It flowers, too, somewhat later than the type. I thought of discarding it, but have this season, had occasion to considerably modify this adverse opinion as to

its merits. My plants have passed this summer in very poor soil, and although the flower stems did not attain to more than half the height of that of previous years, the flowers are very pure instead of having a greenish tinge, as was the case when growth was strong, and the calyx is of normal proportions. The flowers are certainly not so good in form as those of the type, being composed of from twenty to thirty strap-shaped petals arranged in two rows, with rudimentary petals here and there round the centre. As affording variety, Whirlwind may well be grown, and those who have been disappointed with it might try it in poor soil, and where the plants get abundance of sun and air so as to discourage a gross growth.

There can be no doubt that in course of time we shall get a race of varieties of this fine autumn flower exhibiting considerable variation in colour, as double as the Rose, and probably the hybridiser will be able to infuse increased brilliancy and depth of colour. I am sanguine on this point, for it may be noted that in the flowers of the old coloured kind we may at times discover a purplish tinge, and it is quite possible that this in time may become more accentuated and give birth to colours similar to those which exist among the varieties of *A. coronaria*. It is not unreasonable to expect such a future for the Japanese Anemone, seeing what has been done with such things as the Pyrethrum, Phlox, and Chrysanthemum. It is safe to assume that in time we shall obtain varieties with flowers much larger than those now in cultivation. One of M. Lemoine's seedlings has flowers double the size of those of the type, and if this improvement can be made in the course of two or three years, what may we expect in the course of a decade? Coupe d'Argent, distributed by M. Lemoine last year, is a decided advance towards the perfect doubling of *A. japonica*. The individual blooms are composed of about forty petals arranged in three, and sometimes four, rows, and when fully expanded are pure white, though the latest flowers are faintly tinged with pink. The habit of growth is vigorous, though somewhat distinct from that of the parent form. Several varieties were distributed by M. Lemoine in the spring of the present year, but not having seen them in bloom I can say nothing as to their value.

J. CORNHILL.

Pampas Grass protecting.—Now the winter season is approaching it may be advisable to draw the attention of those having young stock to the advisability of protecting in some way. My method is to place some Bracken round the collars of the plants to the height of 1 foot; in this way the plants get enough protection, and they grow away well the next season. I am surprised to note "J. M.'s" plants should have fared so badly. With me—although some ten miles further inland and in a low situation—the Pampas Grass did not suffer so severely. I have two or three big clumps that were only destroyed in the centre, and these have bloomed freely this autumn. I never protect these big clumps.—J. CROOK, Forde Abbey.

Christmas Roses.—The season just past has so far suited these plants, that, whilst the long spell of heat did conduct to early restfulness, yet the autumn rains have quickened the roots materially, so that, being now thoroughly saturated, they have been enabled to produce stout crowns, which will soon be bursting into bloom. Generally these hardy plants do best in shade and where the soil is deep and retentive. I have, however, seen them growing and blooming wonderfully in front of a north border, at the back of which were shrubs and trees, such as would keep the soil in November very dry. The owner of these fine plants used, however, to give them liberal waterings, including house sewage. The

great thing, once Christmas Roses get well established, is to keep the foliage fresh and strong; that being so, the bloom will be full and abundant. Propagation must be performed some time, and the best time for this is usually in February, so soon as the flowers give over. They should be lifted with the greatest care to preserve all the fleshy roots, to be carefully divided with a sharp knife so as to form several from one clump, and replanted in fresh soil and in shade. Though a check is inevitable, yet it is soon recovered from. It is when planted in shallow or poor soil which has not been deeply worked, and where exposed to strong sunshines, that newly-divided plants do badly, and once they receive a check, are long in getting into robust condition. A few handlings, with tops of life off, are the best of all covers for individual outdoor plants, but when planted in bulk, of course a frame covering is best. A few plants kept in large pots, tubs or boxes, and in these carried into a greenhouse, are also very useful.—A. D.

OUTSIDE FLOWER PLANTING.

A very wide scope and a very wide range of subjects are afforded to these gardeners who have an opportunity occasionally of doing a little in the way of outside flower planting, beautifying, that is, many spots removed from the regular garden, such as places in pleasure grounds that may have been cleared of common shrubs, the sides of lakes, the banks of streams, occasional nooks standing back from carriage drives, and the like. The plants that could be utilised for the different situations would range from the lowly Crocus and Daffodil to the stately forms of Helianthus, Bambusa, Gynurium, &c. One of the greatest drawbacks in many places to the increased development of this very interesting branch of gardening is undoubtedly the rabbits, and where these are tolerated it is simply useless planting, unless measures are immediately taken for effectually netting in the clumps made. The netting must go into the ground 4 inches, and slope under ground towards the point from whence the attack may be expected, and be of sufficient height that the animals will not climb over. The enclosing of individual clumps is better than netting. In a considerable area any attack is thereby localised, and can the more readily be met. Where the opportunity is afforded of utilising the tallest flowers apart, that is, from flowering shrubs which are to be grown under consideration, probably nothing better can be found for the majority of sites than the best of the Sunflowers, Starworts, and Gynuriums. Touching the last, it may not be generally known that there are several varieties, and that it is highly desirable to secure the best types. One I have is hardly worth growing, the spikes are poor, and the stems so fragile that they are felled by the first wind unless somewhat elaborately staked. Also it is worth noting that the best type of Gynurium is much preferable to *Arundo conspicua*; the latter is graceful both in spike and foliage, but decidedly delicate, and anything over 20° of frost will generally settle it. I have never had any trouble with the Gynuriums, but have always taken the precaution to gather the foliage up into a stout iron rod extinguisher fashion, and also bank a bit of rough leaf soil all round the outside on the approach of severe weather. Good plants of Gynurium are seen to great advantage where they form the centre of a half circle and are partially surrounded at a fair distance by a good bank of foliage. The different forms of Sunflower range in height, and can be planted with due regard to the same. If a suitable position can be assigned them, they are very attractive, and possess the merit of showing forth in full beauty at a season when few flowering shrubs are available, and, indeed, when most flowers are getting past their best. If a sloping bank can be had of sufficient size that the different varieties can be planted in rather large clumps, they will show here to great advantage. If the natural soil is

fairly good, nothing need be added. The clumps will flower satisfactorily for several years, and when they show signs of going back they may be lifted and replanted. I have sometimes found when planting on the site of old shrubberies that the fungoid growth appearing sooner or later from any dead wood left in the ground will, if in close proximity to the clumps, destroy a portion of the same. Where this is the case it is advisable to have a thorough clear out and start with a bit of fresh soil. An experiment with Starworts in large enclosure was a failure, owing to rabbits finding their way in and having a certain amount of cover, but I am planting again this winter on the principle advocated above, viz., in large clumps in variety that are individually netted, selecting sorts that have proved most serviceable both for a general display and for cutting. Other bold plants that may be utilised in different spots besides the things already enumerated are the tall Soladiog, and Tritomas, and Verbascaum Olympicum.

E. BURRELL.
Clarendon.

THE NEW JARDIN FLEURISTE AT PARIS.

The pedestrian who passes through the Porte d'Auteuil and proceeds along the Boulogne road may now observe, on the left side, in the midst of a large space of cleared ground, a series of metal frameworks enclosing the first storey of two cut stone houses; a semi-circular terrace overlooks these buildings, which are still unfinished, and to this a monumental flight of steps gives access. These are the new plant houses which are being erected by the City of Paris to replace the Fleurieste of the Avenue Henri Martin, which so many Parisians were accustomed to visit every year to see and admire the Azaleas in bloom. The houses erected some time since in the Muette quarter, by intercepting the light and air, had eventually rendered that establishment, which was also rather small in its dimensions, unfit for the cultivation of the flowers of which our public squares require an ever-increasing supply. Accordingly, the City authorities decided to sell it in lots and to devote the proceeds of the sale to the construction of a new Jardin Fleurieste, where the important service of the municipal gardening department might be located and carried on with ease. After much wavering and the suggestion of numberless projects, a large tract in the Bois de Boulogne was fixed upon, but this selection having evoked some sharp and well-deserved criticism, it was finally decided to acquire the site of the Fonds des Princes, which had previously been removed in consequence of some little intrigues and manoeuvres, the history of which would be too long here. Next year the grand houses, which will be quite finished by that time, will form a splendid establishment unique in Europe and perhaps in the whole world. The cost of its erection will reach to 2,500,000 francs. The area of the grounds measures 22 acres, and is enclosed by a continuous iron railing. The offices will be on the left-hand side of the monumental entrance, and the right-hand side will be the chambers reserved for the municipal Botanical Institute, where lectures will be given and meetings held. At the furthest end the plant-houses properly so-called will occupy with their finely glazed roofs an area of over 5 acres. Here will be found the Azaleas and Camellias. Next to these will be innumerable propagating-houses, veritable plant factories in which production never ceases. In the centre superb winter garden, surmounted by an elegant dome, will display to visitors the collection of all the tropical plants in full growth. The method of heating which will be employed appears to be one of the most ingenious and novel, being effected by means of hot water raised to the desired temperature, not directly by fire heat, but by the application of steam, whereby a uniform and easily-regulated temperature is ensured. Immense boilers, like those of an ironclad ship will supply some thousands of yards of piping, the arterial network of which, traversing a maze of

galleries and subterranean corridors, will carry life to the tender and fragile plants which are kept in the houses until they are removed to gladden the eyes of the park visitors in our squares, &c.

It may be asked, "Why so much expense and bother about growing plants? Simply because the city of Paris annually requires a million of flowering plants raised from cuttings sent to speak of the trees and shrubs which are raised in the nurseries, to furnish the parks and squares. The great demand will go on increasing, as new gardens are being constantly laid out or the old ones improved. Moreover, every year a supply of about 80,000 plants is required by the city authorities for the decoration of ministerial offices, charity balls and official ceremonies. At one time there was such an increase in the number of such applications, that a rule was made that everyone who wished to take advantage of the accommodation should pay beforehand for the carriage and deterioration or wear and tear of the plants used for these purposes, but the authorities subsequently exempted from this rule any function the charitable purpose of which was clearly established. No other exception, however, was made in favour even of the Elysée, the directors of which last winter applied for plants to decorate the apartments on the occasions of dinners and balls, but the payment demanded being considered excessive, after one or two vain attempts to have it reduced, the directors applied to a private purveyor.

At the present time the Fleurieste de la Muette employs 100 gardeners. The yearly expenses for wages, implements, &c., and maintenance amount to nearly 400,000 francs. This amount will certainly be exceeded at the new model establishment of the Fonds des Princes, which is designed on a broader plan and intended to supply works which are always increasing. A visit to these works now in progress impresses one with the conviction that Paris knows how to do things in a princely manner, even when it is only a matter of ornament and gaiety.—*L'ÉTÉEN*, in *Paris Figaro*.

GARDEN FLORA.

PLATE 1094

PERSIAN ZALIL.

(*DELPHINIUM ZALIL*.)

(WITH A COLOURED PLATE.*)

This plant was first described in the report "On the Botany of the Afghan Delimitation Commission," which was worked up at Kew from the collections made by Surgeon-Major Aitchison when on duty as naturalist attached to the mission. It flowered at Kew in 1888, and specimens of the flowers, as used for dyeing and medicine, are in the Museum of Economic Botany. As a plant of economic value it is one of the most interesting discoveries of the Afghan Delimitation Commission. Dr. Aitchison thus describes the Persian Zalil:

This plant forms a great portion of the rolling downs of the Badghis, in the vicinity of Gubran. It was in great abundance, and when in blossom gave a wondrous golden hue to the pastures. In many localities above 3000 feet it is equally common. The flowers are collected largely for exportation, chiefly to Persia, for dyeing silk; they are also exported from Herat to be employed as a dye as well as to be used in medicine. For a short period the hillocks are tinted an exquisite blue by the flowers of Gentian Olivier, which is a hot country Gentian. This is followed by *Delphinium Zalil*, a perennial which throws up a spike of bright yellow blossoms 2 feet in height.

The fact of D. Zalil affording a dye stuff is one of the many evidences of our ignorance of

* Drawn for THE GARDEN by H. G. Moon in Messrs. Barr's nursery at Thames Ditton. Lithographed and printed by J. L. Goffart, successor to Guillaume Severeys.



the materials used in the industrial arts of the East. Regel, whose knowledge of Oriental plants was very great, pronounced it to be possibly D. *ochroleucum*, a Sanguinaria species. From a rosette of deeply divided leaves rises a branched flower-stem to about 2 feet high, each branch and branched ending in a spike of flowers, each about 1 inch across, the whole spike showing all its flowers at once. To have it in flower the first year, seed must be sown very early, say in January, in pans, transplanting the seedlings later, when it will flower from the end of May till the end of July. It can also be sown during spring and summer, to flower the following year. Max Leichtlin finds it quite hardy at Baden-Baden.

THE WEEK'S WORK.

KITCHEN GARDEN.

CELERY.—The latest Celery planted in trenches will now need earthing, on similar lines to those recommended a few weeks back for the main crop, as very little further growth will be made by the outer leaves, and the hearts, which are never at a standstill during the winter, except when under the influence of sharp frost, will make better progress when closed in with soil. I recommended when writing of planting late Celery that some of the very latest plants should be set out thickly on the level and in bed fashion; these will also now require attention, and will provide excellent material for the kitchen if some protective and blanching material is placed between the plants. My practice is to go first of all over the plot, giving each plant a tie near the top; then a good bed of dry leaves is worked in around the plants, the tops only of which should appear above the leaves when finished. Though such Celery as this would be perfectly safe without protection, I like to have the leaves gathered and packed in soon after they fall, as there is then less chance of carrying with them to the plants a numerous colony of the little black slugs which so soon infest newly fallen leaves, and which would get into and spoil the Celery. If leaves are not available, clean straw or Bracken will answer the purpose of blanching equally well, but long litter from the stables I do not like, as it is apt to taint the Celery.

CELERIAC.—I find this perfectly hardy; at the same time, I like to earth up the majority of the roots, as this appears to improve the texture, and to keep the roots in especially good condition during the spring. Planting in the distance I advised, there will not be room between the plants to allow of drawing the soil up over the crowns, but when drawing the roots for use I confine myself to alternate rows, and at this time of the year complete lifting such rows, laying in the roots for present use. This gives a chance to get plenty of soil for earthing the remainder, which is done with a heavy hoe, like that used for earthing Potatoes, and in this way the stock roots are buried with some 2 inches or 3 inches of soil.

SEAKALE.—The forcing of this may now go on apace, as the crowns will have had sufficient rest to permit of their making a ready start without the uncertainty that obtains with earlier batches. I need not again refer to the various methods of forcing, as I have so recently dealt with the matter, but I mention it again to draw attention to the necessity for taking care of the best thongs from each batch as it is lifted, as it is only by doing this that sufficient good and strong planting sets can be found when required. Early thongs, when allowed to lie about in exposed heaps for any length of time, are not to be depended on, as they crown and sometimes canker instead of breaking out, as it should into many little shoots. My experience is that these can be entirely prevented by cutting the thongs into 3-inch to 5-inch lengths as each batch is lifted, inserting them very thickly into boxes of dry soil, afterwards

placing in a cold pit, where they can be kept dry and the crowns dormant for some weeks to come.

CHICORY.—Chicory has remained green and growing till quite late this year, but this state of things need not prevent small batches being lifted and put in to force for salad, for, unlike most forced vegetables, no season of rest is necessary for this, and I usually get the first few cuttings of blanched hearts to push through the still green leaves. The extreme ease with which these hearts can be produced and their delicate and attractive appearance in the salad bowl, should induce all growers to keep up a continuous supply throughout the winter months, when Lettuces cannot be had at their best. To do this it is only necessary to put in a few roots with each batch of Seakale, and to ensure perfect darkness during the time of growth that will prevent much of the bitter taste that is sometimes pronounced to be objectionable. The roots with me do not run quite so big as usual this year, but they are big enough, and I always select the largest for salad, putting the smallest on one side until they are fit for forcing green to make an agreeable change when green vegetables are getting scarce as I find it then and always a much appreciated vegetable in that state. Should the roots be too long to be introduced bodily into the forcing quarters, they may be shortened by at least one half without injury to growth. When all growth outdoors has ceased and the crowns can be caught in a dry state, the whole stock of roots should be lifted and stacked, crown outwards, in a cool, dry shed, where they will be readily available to be drawn from as required. I do not advise this in consequence of the roots being at all tender, for as a matter of fact they are thoroughly hardy, but it sometimes happens that when lifted direct from the open ground and put in to force when wet or frozen, the remains of old leaves rot and taint the new growth as it comes up, so lifting is recommended as a preventive of this.

CARROTS.—I advised that a June sowing of one or other of the stamp-rooted Carrots should be made, and where this was done it will now be advisable to protect the roots with an inch or two of some mulching material, such as long litter placed between the rows and well up to the plants. This will be preferable to drawing and storing the roots, as they never are sweeter or more tender than when fresh drawn from the open ground. With a large demand for small Carrots, I find that those from this sowing are now proving a great success, as they will keep the supply good for many weeks to come, and help us to present those sown still later in frames for forcing use. The influence of seasons is well shown on late-sown Carrots this year, for while those sown in June are perfect in colour, some others from the same packet of seed which were sown a month later are, though fully big enough for use, so deficient in colour as to be almost worthless—the effect of a wet and sunless autumn. In frames the case is different, as the elevation of the beds in an open position, combined with a shallow root-run, counteracted the dullness and deficiency of sun-height. I have seen cases in which there has been this want of colour before in similar seasons, and it is for this reason that I do not care to let June run out before making a fairly big late sowing.

TURNOIPS.—The bulk of the white Turnip crop will now have completed its growth, but the roots, like those of many other things, are best when left in the ground till wanted. I do not, however, care to let them be completely exposed to all weathers, as this tends to rotting at the crowns and to a general falling off in quality, but they may be kept in the best possible condition by having the soil drawn over the roots, as already recommended for Celeriac. To provide for a supply in case sharp frost should set in some portion of the crop should also be covered with sufficient litter to keep the frost off the crowns. That useful late Turnip, Chirk Castle Black Stone, though it has a tendency to bury itself in the soil as it grows, is also grateful for a little further

covering than it gets naturally, but this need not be added to the same extent as is advisable with the white-skinned varieties, for it is a very hardy variety and impervious to injury from moderate frosts. Late sown batches may be left to take their chance, as they will continue growing right through the winter whenever the weather permits of growth being made.

MINT.—I like at this time of the year to lift sufficient Mint roots to provide for the whole of the forcing season, and to put them at once into pans or boxes of a convenient size. It is better to lift now all that will be wanted than to grub after them by-and-by under a foot of snow or in hard frozen ground. On the whole, moderate sizes are probably preferable to boxes, as an ordinary cutting box holds too many roots to force at once, and the shoots are never so satisfactory as when cut young. The roots should be packed thickly into the pans and covered with an inch or two of soil, then stod in a cold frame till

TARRAGON.—This is another herb much in request in a forced state, and sufficient plants should be potted up to keep a constant supply. Two-year-old clumps provide the strongest shoots, and should be selected in preference to those which are older, these latter being kept back to divide for replanting.

J. C. TALLACK.

HARDY FRUITS.

This weather since the commencement of the present month has been far more favourable for the ripening of outdoor work, and the soil, even that of a recalcitrant nature, has now got sufficiently dry to enable planting to be proceeded with. It is a great mistake to defer planting till late in the season, especially in places that are short of water, for unless the trees make a satisfactory start they assume a stunted habit from the commencement. Every effort should be made to finish planting without delay, always bearing in mind that the soil is in a proper condition for the work.

PEACHES ON WALLS.—In the northern parts of the kingdom there is often much difficulty in getting the wood of these well matured, particularly during a season like the present, when there has been so little sunshine during the autumn. To assist the ripening allow the trees to remain nailed to the wall, as what little warmth is generated thereby will be of great benefit in maturing the sappy growths. By so doing this will not only be of great value in hardening the wood, but will also afford some protection from the frost's severity during winter. On the other hand, those trees growing against south walls in the southern counties will be greatly benefited by having the shoots liberated and allowed to move about the wall, till the buds begin to swell in spring. The wood being well ripened causes the flower buds to be very prominent, and these, when the shoots are left nailed close to the wall being excited by the first rays of genial sunshine, burst into bloom. A severe frost or two then follows, killing not only the flowers, but often injuring the young wood to such a serious extent that it is a considerable time before the trees recover. It is therefore advisable to retard growth as long as possible in spring, that there may be less risk from inclement weather. To do this effectively, the trees ought to be left unnailed as long as possible, that the heat from the walls may not bring them forward. Care must, however, be taken to secure them in such a manner that no injury may be done by the wind swaying the branches to and fro. If the leading growths are securely fastened, the others may be tied to them till the time comes for nailing in spring. Where walls are wired the growth is not so much affected early in the season, as there is always a cold current of air passing between the trees and the wall; therefore tying such shoots as required may be done at the present time, taking care in doing so not to make the ties too tight. Peaches on the open walls are in many places subject to blister of the foliage; this in a measure is due to

cold currents at a time when the leaves are very small. It may also be traced to ill-ripened wood, as the young growth from such is always more sappy than that from those shoots that were thoroughly matured. To enable the wood to become better ripened, allow more space between the shoots when tying. Where the trees are in good health and make fair-sized shoots, a space of at least 5 inches ought to be allowed between them, for it is remembered that not only must they have room for the present wood, but sufficient for the young of next year also. Mildew is sometimes prevalent in cold springs. When the trees were affected I last washed both them and the wall should be washed with Gishurst compound or a mixture of soft soap and sulphur. It will be necessary, however, to be careful not to injure the buds in so doing, or they will fail to expand in spring. Much harm is often done by a careless use of too strong insecticides, even when the trees are in a dormant state, the injury not showing itself till growth commences in spring.

ORCHARD HOUSES.—PEACHES IN POTS.—These will now have shed their leaves, and where potting is necessary this should receive attention unless the work has already been taken in hand. If soil was prepared as previously advised, by being stacked before it got too wet, it will now be in condition for the work. Peaches grow very well in pots where due attention can be afforded them, and a large amount of fruit may be gathered off a limited space, but to them to remain in perfect health their roots must receive due care. Both these and Nectarines do best in a moderately heavy loam, to which has been added sufficient lime rubble to keep it porous. When potting, this should be borne in mind, and if such can be procured and used as drainage, the trees will thrive much better. When this is not at command, half-inch bones or powdered oyster shells will answer the purpose. Where attention can be given, the finest fruits are obtained from young trees or those which have been potted three or four times, though good fruit may be had from those of a much greater age. It is always best to prepare trees with roots for pots, as then the roots not being so strong may readily be got into those of limited size. In potting trees from the open see that the soil is well worked in between the roots. Pot moderately firm. The pots may then be plunged in a sheltered situation till spring, taking care to protect them from frost and if the winter should be severe, a little Bracken shaken amongst the branches will help to ward it off. Repotting those that require it ought not to be longer delayed. In doing this be careful not to injure the roots more than can be avoided. After the drainage has been removed from the old ball, loosen the outside roots, then put the plants into pots a couple of sizes larger, taking care to fill in the space between the pot and the old ball by ramming with the potting stick. Orchard houses are often used for a variety of purposes in winter; therefore their occupants have to be plunged out of doors. Where a mixed lot of fruit is grown in these structures, it is always best to have a place set apart for plunging the pots in. They can be stood on a bed of ashes, while some of the same material is filled in between the pots. Ashes will exclude more frost than soil; therefore it is not necessary they should be more than a few inches thick. If a framework be put round the plunging ground, the buds can be protected from birds with wire or other netting, as many of the small feathered tribe are very fond of these, particularly Plums just as the begin to swell. Where orchard houses are not required for protection of other things the trees may be returned when potted, but the ventilators should be kept open all winter whenever the weather is not too severe, otherwise the buds will get too forward. Where any painting to the interior of these structures is needed, this should receive due attention before the weather gets too bad.

H. C. P.

Bulb planting.—Recently when the beds in Palace Gardens, Westminster, the soil being in

very sodden condition, were being planted with bulbs, Hyacinths chiefly, no doubt, I observed that an ordinary Potato dibber was being used for the purpose. As this method of planting Potato tubers is sometimes seriously depreciated, and it is a bad practice where soil is very wet, it was a surprise to see bulbs necessarily a long way more costly than Potatoes and far less capable of fighting their way through hard soil, being planted in this rough-and-ready fashion. Possibly all anticipated results may be so obtained. That the spring will show. But for all ordinary purposes it is evident that for any descriptions of bulbs, carrots, flower roots, a trowel or small hand-fork is eminently preferable to a dibber. In the case of Hyacinths for instance, it is not possible when a pointed dibber is used for planting to have the base of the bulbs sitting in the moist soil; indeed, on none at all. Then the hand-fork has solid sides of a cup form created by the dibber-conducts to long retention of moisture should heavy rains fall after the planting is done, and such moisture cannot be conducive to the welfare of bulbs or roots. When a trowel or fork is used no such basin is formed, and the soil lies loose beneath and about the bulbs, so that excessive moisture percolates away speedily. When planting is badly done failures are ascribed to the bulbs, which, none the less, may have been of excellent quality. The fault, however, has lain with the planting.—A. D.

KITCHEN GARDEN.

SMALL VERSUS LARGE VEGETABLES.

As this subject so often crops up, it may be as well to consider the relative value of each, and in doing so, both from an economical point as well as that of producing the greatest amount of high quality from a given space. It has often puzzled me how judges at our great shows arrive at their decision, as they certainly cannot take all points into consideration. The new rules of the R. H. S. have been before the public for a season. I wonder how many judges have looked at them or acted on them. It would be interesting to know this. If the awards at the Aquarium were made in accordance with these rules, I for one fail to see what advantage they are, for I consider that in many of the classes there was little judgment brought to bear on the awards given. Take Parsnips, for instance. Everyone should know that if two rows are sown side by side on the same date, the plants in occupying attention by high tillage, the other allowed to take the next course, the former will be at least four times the size of the latter that have taken the same length of time to grow. It must stand to reason that the former will not only supply the greatest amount of food, but also of the highest quality. Take the Leeks. It is generally admitted that Leeks cannot be grown too large, provided they are properly blanched, for the larger they are in comparison to the length of blanched stem the better. Big Onions always take the judge's eye. That these big bulbs are milder than the smaller ones there can be no two opinions, but whether they are the more serviceable is another thing. A row of bulbs, 20 yards in length 1 foot apart, whose average weighed 2 lbs. each, would be 120 lbs. A row of the same length that was thinned to 4 inches apart and produced bulbs of the ordinary size would weigh about 80 pounds, more or less, according to the quality of the ground. That these latter are the more useful all will admit, yet they would stand no chance against the larger ones on the exhibition table. In the case of Celery, we shall find that the big heads, if they are well blanched, are the most serviceable, because there is the greater amount of stems in them. Yet we often see small heads placed first on the exhibition table. Take Turnips. We shall find that judges, as a rule, invariably go in for little ones. No greater mistake could be made, for it is easy enough to get nicely shaped, small roots about the size of a large

Radish that have been four months in attaining that size, but to get crisp, juicy ones in six or eight weeks is another thing altogether. Take Runner Beans. A good Runner Bean should not be judged so much by its size as by its quality, and here, in the majority of cases, errors are committed because appearance only is taken into consideration. True, coarse, over-grown, ugly specimens ought not to be encouraged; at the same time, then it is useless to try to get bulk. A Runner Bean should not be discarded on the show table because the skin has a rough appearance, as this in a great measure denotes the pods are not fully grown, for when they begin to assume that smooth texture, as a rule their flavour begins to deteriorate. Salesly, again, to be good cannot be too large, for the more food there is in a root the more tender will it be, showing that a high state of cultivation has been practised. Carrots, when sown, should always be of a good size and well blanched. Carrots are often a puzzle to many judges, who go in for long roots, others for short ones, but if a little more thought were expended there would not be many blunders made. Carrots should be judged according to the season when they are received. Most gardeners who have large establishments to supply know that this is one of the most troublesome vegetables to produce satisfactorily; as the young, sweet roots are far more appreciated than those which have been stored. That large roots are quite as sweet and more tender will admit if both have been the same time in attaining their respective sizes. It is not so much the size of the root as the length of time it has been growing. Most gardeners make mistakes in the cultivation of this crop. They sow according to the old orthodox rule in April, when by the end of summer the roots get old and tough. As a rule, roots from these sowings are fully grown by the middle of August; if they were lifted and used then, even though they were of large size, they would be young and tender; whereas when left in the ground till October they become tough. I sow once a fortnight from the middle of February till the end of July. The early sowings are made on warm borders, while those through the summer are made in the open, having recourse again to the borders for the late sowings; this way there is always plenty of roots to catch, though fully grown, and with them the quality should depend on the time of the year and variety. For example, an Autumn Mammoth and Early Force bearing no comparison to each other. The former if 9 inches in diameter might present a more close, compact heart of fine texture than one of the latter a third the size, and yet not be overgrown. Potatoes are, again, a puzzle to many, but how few really thoroughly understand what they are judging. We often see tubers that score a point in collections that would be discarded altogether if shown as a single dish, and this on account of their size. Satisfaction is frequently shown of more than ordinary size, many of the tubers weighing nearly a pound each, yet these are considered good. I maintain that tubers of Potatoes half a pound each are of a fair size and quite large enough for ordinary purposes, though if a trifle larger and of as good quality they should not be discarded on that score. Peas, as most people will admit, should be in perfect condition, neither too old nor too young, pods perfect in shape, well filled, of good colour, and fine flavour.

H. C. P.

Brussels Sprout Northway Prize.—Comments have of late been made in these pages regarding the coarseness of Brussels Sprouts. This vegetable of late years has become much mixed, and when one sees a true strain with hard bullet-like sprouts, it is worth noting. I am a great lover of what may be termed a compact growing kind without coarseness. I notice many of the very large kinds have a tendency to produce coarse sprouts lacking solidity. For the past few years my favourite Sprout has been Sutton's Dwarf Gem; it is one of the very best types any-

one can grow in a private garden. I am aware that for sale it may not be large enough, but there is no profit in large Sprouts for private use. The cook soon complains if any of these are raw, or Sprouts are sent out rightly so. Its good frost resisting qualities make it doubly valuable.

A few days ago the severe frost of February, 1896, Northaw Prize was raised at Northaw by Mr. May, who grows other vegetables to perfection.

I do not know when this useful variety was first sent out. At the time it was recommended for sturdy habit, distinct character, and small, close, solid sprouts with very good flavour. For private use it is all one can desire. Like all the Brassica tribe, unless every care is taken in seedling, it soon loses its distinct character. Having recently seen this fine Sprout grown by the raiser, I found what an excellent type it was and the importance of true seed. Here the plants were perfection and bearing as nice a lot of sprouts as one could wish. It was much pleased to see this fine variety again. It was always a favourite, and I can confidently advise its culture where quality is the first point, and even when quantity is desirable one can plant these medium growers somewhat closely, and get quantity with quality combined.—G. WYTHES.

Onion stocks.—Of all the numerous stocks of Onions in commerce, how few have that element of distinctness that they can be recognised with absolute certainty. In this respect they are like Tomatoes—all far too much alike to be satisfactory. This comes from the well-known fact that in bulb formation few stocks keep absolutely true to character. Of course to the grower of Onions ordinary use makes no difference, but the consequence so long as he gets a big stock of serviceable bulbs. It is when Onions are exhibited that their aspects are found to be so dissimilar. Thus we know what is the true form of Ailes Craig, of Cranston's Excelsior, of Cocoa-nut, of Maincrop, Exhibition, and many others, but it is a fact that even the best stocks of the first named will give pretty well all forms if needed, and from stocks of the others, when grown for exhibition, bulbs may be found both round and oval, and which the most experienced eye cannot detect if set up as other varieties, if in character. All this comes of making from every little divergence of bulb form in a stock a new variety, and trying to get it set, although that is a matter of extreme difficulty. Onion growth under ordinary conditions keep somewhat more true to character than do those planted out in the spring and grown liberally to produce very large bulbs, for it is then that these variations in shape are more clearly seen. These remarks are specially applicable to all the light brown round and oval forms. In the case of the red kinds, such as the old Blood Red and the finer Crimson Globe, no mistake can be made, and they generally are very true. Anyone who has grown for big bulb production but two or three of these having size reputations readily admits that the picking out of bulbs to fit the requirements of several varieties is easy enough.—A. D.

The hoe.—The note (p. 310) on the use of Dutch hoes reminds me that I had intended sending in a note on the form of hoes that I find most useful for light soils, and one which can be made to get over the work more quickly than any other, as its lightness and good cutting qualities make the work easy. Mine are made by the village blacksmith, and consist of a collar to fit on the end of the wooden handle, and from the bottom of which a swan-necked shaped single iron rod about half an inch thick and 6 inches long extends. This rod is then divided and spread at right angles to the neck, and the two ends are then turned down so that they stand from 4 inches to 6 inches apart. Each of these ends is split to a depth of three-quarters of an inch to receive the cutting blades of the hoe; the latter I have made in various lengths to suit the various crops for which they are to be used and are interchangeable, which is very convenient. The blades consist of pieces cut out to length from worn out scythes; these, being thin and of highly-tempered steel, cut the weeds better than the ordinary hoe. The

bowed and slotted receptacle for the blades allows the weeds to pass over the blades without hindrance, and the latter work clean in consequence, which is very great benefit, as those who have had to use draw scythes of the ordinary shape in damp weather will readily understand. The blades never need sharpening and wear well, and may of course be renewed at any time without sacrificing the whole tool; the frames last a lifetime. It is best to make the framework of the hoe rather narrow, as it can then be used among thickly-sown crops with safety, and there is no objection to the blades projecting beyond the frame at each end when greater width is desired. There must be many places where old scythes, worn out as far as their legitimate purpose is concerned, have accumulated, and I strongly advise anyone who has such a store by him to convert them into hoes, seeing that no one will ever regret having done so. For exceptionally heavy and badly-worked soils these hoes are not suited, but in the majority of gardens they will prove better than any others. If the blades do not tighten properly in the slots, they can be made to do so by doubling a thin strip of soft leather over the back of the blade just where it enters the slot and driving this in along with the blade. I hope I have made my description plain, for though it may read a little complicated, the tool itself is a most simple and useful thing.—J. C. TALLACK.

NOTES ON PEAS.

OUR soil is naturally cold in the winter, so I start with Chelsea Gem at first, Dr. McLean second, Sharpe's Queen and Autocrat to follow, and for late, Chelsonian Main-crop, and Ne Plus Ultra. One cannot start too highly of all these varieties. If I did not one would be Maincrop, but during the last two years have been excellent crops. Ne Plus Ultra everyone knows, but there are selections of this variety that are a little better than others. I only grow the Marrow kinds. Telephone in some gardens succeeds well, but I can do nothing with it. Duke of Albany requires a warmer soil than I have. It mildews badly with me. Stratagem is grown largely by the cottagers. I have seen good crops grown without sticks.—A. CHAPMAN, Westerbirt, Tetbury, Gloucester.

Exonian and Gradus (early varieties) are two excellent Peas with me here, the latter especially so, having large pods, which have on the average from eight to nine large deep green Peas in a pod of a rich Marrow flavour. Webb's Senator, as a second early and midseason Pea of excellent quality, will be hard to beat; but for a late Pea, giving high quality with quantity, I still stick to the old Ne Plus Ultra and G. F. Wilson.—J. KIRLING, Knebworth, Stevenage, Herts.

I consider the best Peas are William I., Gradus, a grand new wrinkled kind and very early; Duke of Albany, Autocrat, a grand Pea; Success and Ne Plus Ultra, grown in the order given.—EDWIN BECKETT, Aldenham House Gardens, Elstree, Herts.

Chelsea Gem, Earliest Marrow, and Veitch's Selected Early have been good. Criterion is a splendid cropping and Maincrop is usually one of my best Peas. A very fine Pea, and a great favourite with the cottagers for exhibition is Duke of Albany; it grows well and is very handsome in pod and a good cropper.—C. J. SALTER, Wood-hatch Lodge, Reigate.

Peas come to us in such great abundance in the form of new varieties, that it would be a boon to gardeners if raisers and seedmen would give growers a little breathing time and some chance to fairly test what now are in commerce. However, there can be no doubt that good flavoured wrinkled Marrows of the earliest section are displacing the old early rounds, and fine, heavy cropping, medium height maincrop Peas are displacing the old tall ones. English Wonder, dwarf, free, and of capital flavour, has proved to be exceptionally good as a first early, so also have Invincible, a fine kind with me 2 feet in height, and Senator, 3 feet high, a

first rate cropper, and good all round. Of occasional sorts, Sharpe's Queen, 3 feet; The Daisy, 20 inches; Dwarf Defiance, 2 feet; Boston Unrivalled, 3 feet; and Magnon Bourbon, 3 feet, are all exceptionally good wrinkled main-crop sorts. Our later varieties Queen, Latest of All, and Omega, may well rank amongst first class varieties. These are but a few out of many that have come under my special notice.—A. DEAN.

My favourite early Peas William I., and for main crop and late Ne Plus Ultra. I have grown many of the newer varieties, such as Early Sunrise, Chelsea Gem, Exonian, and several new late sorts, but the two first named always give me the greatest satisfaction. American Wonder I like for a few dwarf rows for first early at the foot of a south wall, but for productiveness and quality I consider Ne Plus Ultra by far the best Pea ever introduced for general or late crops.—W. SANGWYN, Trellisick, Truro.

Veitch's Earliest Marrow produced a good crop and was the earliest I had. Exonian, which came in fully a week before William I., is a very desirable variety, as the pods are well filled, and when cooked it is of a splendid colour. Dairy is a grand Pea, dwarf in growth, and producing pods well filled with peas of a dark green. Stratagem, Gladiator, Autocrat, Criterion, Ne Plus Ultra, Veitch's Perfection, and Sutton's Latest, of all the late main-crop varieties the last midseason Pea I have this year is Success. It is extensively grown in this neighbourhood, and this year withstood the dry weather better than any of the others. It has a strong constitution, and many pods are found with nine and in some cases ten large peas in them. This is the first year I have grown it, and it certainly deserves a place in every garden.—HERBERT NOBLE, The Gardens, Ashton Court.

Of early Peas, the best with me here are Sutton's Early Forcing, Chelsea Gem, Daisy, a wonderful cropper and bearing large pods; May Queen, Empress of India, and Early Giant, an improved form of Empress of India. For second crop, Dwarf Defiance, Main-crop, Duke of Albany, Prodigy and Stratagem are good. For late crops Autocrat, Chelsonian, Emperor of Marrows, Sharpe's Queen, Dwarf Mammoth, and Ne Plus Ultra I find the best. I generally sow a row each of Prodigy and Autocrat the first week in July, for very late use, and they generally do well if frost keeps away.—T. WILKINS, Inwood, Dorset.

Exonian and Veitch's Earliest Marrow I consider the two best early Peas. I do not care for the dwarf kinds. I consider Duke of Albany a first-class second early if sown at the same time as the first earlies. Like Criterion, Veitch's Main-crop, Autocrat, Emperor of the Marrows, Gold-finder and Ne Plus Ultra.—J. MAINE, Bicton.

For early use Veitch's Selected Extra Early, and William I. are the varieties grown here, these being succeeded by Gladiator and Criterion; the latter I consider the finest mid-season Pea grown. Successional sowings of Chelsonian, Duke of Albany, and a true stock of Ne Plus Ultra provide what is most needed, while Autocrat will supply the last good dish of Peas for the season. On the other hand I avoid the early carrots, sown too highly of Brownhill's Kentpenny. It is an extraordinary cropper, bearing in pairs immense pods containing eight to ten Peas of a true Marrowfat flavour on haulm about 3 feet high. Some of the much vaunted large-podded varieties have proved rather disappointing when judged by the yield of shelled Peas.—A. G. NICHOLLS, Nuneham Park.

The Peas that succeed best here are as follows: As a dwarf early William Hurst does well, but, all points considered, a good strain of William I. takes a lot of beating. Daisy is an acquisition, the Peas being of delicious flavour. Duke of Albany, Telephone and the like do well, the same remarks applying to Ne Plus Ultra for a late supply.—J. J. CRAVEN, Allerton Priory Gardens, Liverpool.

I generally grow William I. for the earliest. This is always transplanted, having been raised first in boxes under glass. A succession of

same kind and Ne Plus Ultra sown together brings them in good order. After this, I would not object to have no other Peas than Ne Plus Ultra to follow, sowing a first batch whenever the last sowing is coming through the ground. Here I have frequently tried early Peas as a second crop after early Potatoes, but it was scarcely worth doing, as the frosts were so by the time they were about ready.—ROBERT MACKELLAR, *Umeby Hall, Cheshire.*

— For early use I still think American Wonder and Chelsea Gem the best of dwarf varieties either for forcing or open borders, while William I. still maintains its position as the best round-seeded early variety. Veitch's Extra Early was sown in boxes under glass February 7, gradually hardened off and transferred to the open borders. The first gathering from this was obtained on June 13; William I. sown in open ground March 12 gave a better crop of tender Peas on June 19; former were stunted. Exonian, sown April 2, gave the first gathering June 27, of splendid quality, followed quickly by Duke of Albany (July 1). Ne Plus Ultra, sown same date, gave a splendid crop, ready July 10; this variety constitutes our mainstay through the season until frost comes, and here it never fails to give satisfaction, growing 6 feet high on an average. I use wire supports on either side of the rows. These are costly in the first place, but with care last a number of years, and require little storage room in winter.—THOS. BONSALL, *Emet Hall, Leeds.*

— The following varieties of Peas are found to do best here: Early: Chelsea Gem, Exonian and William I. General crop: Veitch's Main-crop is undoubtedly a good variety, standing the drought well, and an abundant cropper. Criterion, Champion of England, Dr. McLean, Huntingdonian and Gladiator are standard varieties which have done well with me this season: whilst for late use I find none do better than Ne Plus Ultra and Autocrat.—J. DUMBLE, *Picton Castle, Herefordshire.*

STOVE AND GREENHOUSE.

CARNATION URIAH PIKE.

BEARING on the recent controversy in THE GARDEN re Uriah Pike Carnation, I am sending you photos of a batch grown here last season. We have at the present time an equally good lot in full bloom. This morning (November 12) I counted 300 expanded blooms, with several hundred more to open. I cut almost every day. A few notes on the mode of treatment adopted may be of interest. Uriah Pike being a great favourite here, a considerable quantity is grown. As will be seen from the illustration, the plants figured are two years old and are mostly grown from layers put down in June when the first batch of young plants has finished flowering. The layers are taken up when ready, grown on and flowered in 6-inch pots the following spring. The best plants are then picked out and repotted into 8½-inch pots, the potting compost used consisting of fibrous loam and peat, with an addition of charcoal, sand, soot and a little chemical manure. The plants are grown outside through the summer, housed in September, and brought on for autumn and winter flowering. Treated in this manner, Uriah Pike is a valuable winter bloomer. If afforded the usual treatment given to winter-flowering varieties, Uriah Pike can hardly be considered satisfactory as a winter bloomer, as the young plants do not throw up their blooms with the same freedom as the true winter-flowering sorts.

W. SILK.

Londwater House, Rickmansworth.

Manettia bicolor.—This makes quite a pleasing plant when trained on a trellis, the scarlet

and gold-tipped flowers, not quite 1 inch long, studded over its surface. It should make both a pretty and desirable plant for planting against a wall or trained to a rough wire netting in a like position.

Feeding Tree Carnations.—I am not in favour of feeding to any extent Tree Carnations grown in pots, either by the addition of farmyard or artificial manure, having during a lengthened experience found no good, but rather the opposite, from the practice. If the plants are potted from time to time in a mixture of light friable turf which has been stored for one season and

covered on questioning him. On discontinuing its use the plants partly regained their former healthy condition, but the mistake and its results I have never forgotten. When the plants are in full bearing and covered with a number of buds I give a little weak liquid water the colour of pale ale once a week. Some varieties will stand it better than others. Miss Joliffe being one of the worst. My advice is, if the plants are doing fairly well, let well alone.—J. CRAWFORD, *Newark.*

Disbudding Tree Carnations.—Those who grow Carnations in pots for the production of large



Carnation Uriah Pike in Mr. Farnswoorth Gordon's garden at Londwater House, Rickmansworth.

possesses a good amount of natural grit, a sixth part of leaf-mould made from good Oak and Beech leaves being added, they will find sufficient nourishment if carefully watered. I once had a fine batch of plants which had been shifted into their blooming pots, 8 inches in diameter, much injured by liquid manure being given to them, although roots were numerous. The young man in charge was instructed to give the liquid to a batch of Chrysanthemums close to the Carnations, and he of his own accord gave it to them as well. From a green, perfectly healthy colour they soon turned to a sickly yellow, the cause being dis-

blooms and who are satisfied with say from nine to a dozen blooms on a plant always disbud early, leaving the terminal buds only, but where quantity is studied, wholesale disbudding cannot be indulged in except on a very limited scale. As a rule, however, free-flowering varieties, such as Miss Joliffe and La Neige, form three or four bloom-buds at the extremity of each leading shoot, one of these always being somewhat in advance of the rest. These are so close together, that if the earliest is cut as soon as it opens, or indeed while it is in good condition, the rest have to be sacrificed. Although I have not hitherto

removed any buds, I intend next season pinching out, or better still, clipping off with a pair of Grape shears the second-sized ones, which cluster around the terminal one, with a view to increasing the size of the latter.—J. C.

Early Callas.—As a rule, Arum Lillies that have passed through the open garden during summer and lifted and potted in October are somewhat slow at throwing up blooms till after Christmas if placed in a cool house. I usually select a few of the best furnished plants and stand them on the bed of the Cucumber house, giving a temperature of about 60° at night and keeping the atmosphere tolerably moist, assisting them also with a little artificial manure or farmyard liquid, the result being nice dense plants, carrying several fine blooms by Christmas, which come in most acceptable for standing in the drawing-room or front hall. I plant out one year and keep them in the pots the next, not drying them off, but keeping them growing freely all the summer. By the latter treatment earlier blooms are forthcoming.—C. C. H.

Miss Joliffe's Carnation and mildew.—This, the grandest of all pink-flowered Tree Carnations, is not only very liable to die off suddenly without any apparent cause, but the blooms also are very liable to attacks of mildew, especially in some localities. It sometimes seizes the buds when half expanded, rendering them quite useless. I find the plan adopted by those who force Tea Roses in pots, namely, refraining from admitting frost air during winter, to be the best preventive, as draught is undoubtedly almost as fertile a source of mildew as damp and cold. We hear a good deal about the new pink variety Nine. Thérèse Francoise seems thinking that it will eventually replace Miss Joliffe. I do not, as my experience is to it that, as a correspondent noted a week or two ago, that the first flush of flower an interval occurs before more bloom is produced; whereas one of the principal characteristics of Miss Joliffe is its continuous habit of flowering. Mme. Thérèse Francoise, however, is undoubtedly an acquisition, and will, I dare say, thrive in many gardens where Miss Joliffe fails.—C. H.

IVY-LEAVED GERANIUMS.

I RECENTLY saw a very pretty edging to a conservatory stage consisting of Ivy-leafed Geraniums in full bloom, the most attractive variety being Souvenir de Charles Turner. The trailing growths hung down over the sides of the stage, showing off the bright rose-coloured trusses to advantage. Another variety named Edith Owen is grown in this neighbourhood, and although the flowers are neither quite so large nor so brilliantly coloured as those of the former, it is a very free grower and capital bloomer. These Ivy-leaved Geraniums are not half so much appreciated as they deserve. There are few things that can be more easily dried freely at this season of the year that are more serviceable for hanging baskets in a warm conservatory, for placing in ornamental baskets in the drawing-room, so that the trailing masses of bloom hang over the edges, or for ordinary greenhouse decoration, looking very pretty also arranged in a vase in a cut state, with nothing but their own foliage mixed with them. One gardener in this locality grows them in a variety of ways, some being trained to balloon trellises, in which way their rich blossoms are seen to great advantage, as by turning the plants round occasionally, so as to receive an equal share of sunshine and light, all the blooms turn outward. In order to have a display in winter, a batch of cuttings should be inserted, say, in March or April, and the young plants grown through the summer, the blooms which show being all picked off, the September-formed buds being allowed to remain. An 8-inch pot is a good size for balloon or cylindrical-shaped trellis plants, but for ordinary furnishing a 6-inch pot will suffice. A good loam, with a sixth part of thoroughly decomposed cow manure and a little sand, will grow them well, manure water being withheld until plenty of bloom buds are formed,

A little farmyard liquid then twice a week will assist in swelling them to their normal size and also improve the colour. If given in the earlier stages of growth, grossness and a meagre quantity of bloom will be the result. The plants may be grown in the open air from the middle of June to September, after which a structure in which is a little heat suits them best. If large specimens are required, one-year-old plants may be cut back and given larger pots, but yearling plants in 6-inch pots will, as a rule, be found the most useful.

NOTES.

J. CRAWFORD.

VARIETIES OF ASPARAGUS.

ASPARAGUS PLUMOSUS CRISTATUS is a dwarf form. The branches are not quite so flat as in the type and each branchlet is terminated by a multifid growth almost in the same manner as some of the crested Ferns. This multifid or fasciated growth occasionally occurs in many plants, but it is most remarkable that it should keep constant. I find that among a number of plants propagated from divisions they all retain the crested character, though some shoots are more defined than others. A certificate was awarded to this plant a few years ago, but it does not appear to have come into commerce, or at least I have not yet seen it catalogued.

A. TENUISSIMUM, though not grown to the same extent as *plumosus nanus*, is equally beautiful, and for some purposes I prefer it, the light fluffy-like trails being particularly adapted for the shower bouquets so much in vogue, and also for associating with flowering plants in groups. This may be propagated from cuttings. The short side shoots taken off close to the old stem will root freely in any light sandy compost in the stove propagating pit. In growing the plants on they do not require a high temperature so much as a regular heat and plenty of light. Shade or a sudden change of temperature will cause the leaves to turn rusty and fall off.

A. SFRENGERI is a very distinct species of scandent habit, the leaves longer and broader than in those referred to above. I have not yet had much experience in its culture, but find it grows freely in an intermediate temperature. If it should seed freely it will be sure to become a useful plant. It has been grown for some time on the continent. I lately saw some fine large plants which had been imported, placed on a shelf, and the long growths hanging down were very effective. It is obtained from seed, but I have not yet seen it ripen seed in this country.

A. RETROFRACTUS ARBOREUS.—I do not know in what way this differs from the original form of *retrofractus*, which was introduced from the Cape of Good Hope in the year 1759. I have not seen it under the original name. It is probable that *arboreus* is the same. It is a most beautiful Asparagus and well worthy of cultivation. It is of tall habit, the stems hard and of a woody substance, covered with a greyish white powder, the long thread-like leaves produced in tufts from the slender wiry branches. I do not know if seed can be obtained. I have not yet seen any signs of its flowering, though I have had some strong well-developed plants. I am afraid it will prove too slow to propagate from divisions to ever come into general use, though it would undoubtedly be much appreciated, the long trails of bright green foliage being very effective among cut blooms. Like other plants from the Cape, it will do well in a cool greenhouse, but a little extra warmth will ensure better growth. It requires plenty of pot room, a rough porous compost and good drainage, and must not be grown under the shade of other plants.

A. DEFLEXUS.—Under this name a few useful species was brought into commerce a few years ago. It is of tall growth, with slender wiry stems, the drooping leaves of a bright green, and for cutting very useful. When planted out, the underground rhizomes spread freely and throw up strong growths in all directions. It may be readily increased by taking up these strong shoots with some roots to them. I find it also seeds freely, and seedlings soon make nice plants. This succeeds best in a cool house, too much heat inducing slender growth and weakening the plants.

A. DECUMBENS (syn. *A. crispus*) is an old species of very slender growth, from South Africa. Although very pretty, I could not recommend it for general use. The large fleshy, tuberous roots render it difficult to grow. It should be grown in a cool house, and under genial conditions it makes long growths on slender thread-like stems. The leaves are of a glutinous green and, as its name indicates, of a drooping habit.—A. HENSLEY.

Asparagus *retrofractus* has several times recently been spoken highly of for cutting, and it has certainly the merit of being totally distinct from *Asparagus plumosus* and *A. tenuissimum*, which have of late years become so popular. *A. retrofractus* forms, like the two above mentioned, pretty little plants in small pots, but with age it develops a strong climbing habit, the stems being very hard in texture and light in colour. The principal stem produces side branches freely, while these minor branches and branchlets, which are slender and wiry, have the leaves arranged thereon in little tufts. The leaves are each from $\frac{1}{2}$ inches to 2 inches in length and bright green in colour. My first acquaintance with this Asparagus was when distributed by M. Lemoine, of Nancy, in the spring of 1890 under the name of *A. retrofractus arboreus*, but a year or two after it was awarded a first-class certificate by the Royal Horticultural Society as *A. retrofractus*, the varietal name of *arboreus* having been dropped. I have not succeeded in propagating it from cuttings, but have obtained a few plants by means of layers. This is, however, a very slow process, but it is apparently the best method available unless seed can be obtained.—T.

ORCHARD AND FRUIT GARDEN.

AIRING VINERIES IN WINTER.

It is one thing to grow good Grapes and another thing to keep them in good sound condition through the dark days of winter. In some vineries where paint and putty are grudged it is well-nigh impossible to prevent the berries decaying owing to drip after every shower, but we sometimes see late Grapes, especially Muscats, damping freely in modern-built water-tight vineries, in all which cases it may safely be asserted that the system of admitting or withdrawing air is at fault. Only a few days ago I saw a house of Muscats which had been well ripened, the berries being of that beautiful amber colour so much coveted by all Grape growers, yet damping had set in wholesale, and many of the best bunches were being quickly reduced to skeletons. My opinion as to the cause being asked, I inquired how late the ventilators had been left open of late, the answer being, until work was abandoned for the day. The weather had been so bad that work in the kitchen garden was in arrears, and the men employed under glass were drafted out to lend a hand, the fruit houses having in the meantime

to take their chance. The cause of the Muscats damping at once became apparent; the heavy outside atmosphere had entered and settled on the bunches, this being shut in when the ventilators were closed. No worse plan could possibly be adopted with late vineeries than putting air on by rule of thumb, no difference being made except when actual rainfall occurs. During November, December, and January the vineeries are better kept quite closed unless the day is sunny or the atmosphere quite clear and bracing. As a rule, 3 p.m. or at the latest 4 p.m. is quite long enough for air to remain on during the months above named. In houses well glazed and free from drip a lukewarm state of the hot-water pipes is the best, but in old houses where damp creeps in, the best way is to watch for fine days and then to admit as much air as practicable, at the same time moving on the fire so as to have a good heat in the pipes throughout the forenoon, reducing it again to lukewarmness by the time the house is closed. In foggy weather, vineeries ought to remain closed all day, as opening ventilators then only admits the very thing which all who know its effects strive to keep out. Unless it is in very small structures, the temperature in which runs up quickly, I am not an advocate for front air after October, as Grapes in general, and Muscats in particular, resent it. Under its influence the skins frequently shrivel, in which state the berries are more susceptible to injury from damp when quite plump. My advice is to allow a little extra warmth from sun-heat rather than to admit too much air, as Muscats will, if the atmosphere is quite dry, stand this far better than cold draughts.

Then, as regards watering borders in winter, I think it an unsafe practice as a rule, for even should the morning be quite bright and sunny and border-watering taken in hand early in the day, it often alters in an hour, and if a house containing Muscats is closed, with the surface of the border in a wet condition, damping may be looked for in twenty-four hours. I think if the border receives a thorough moistening from summit to base, say at the beginning of October, and is then well mulched with some such material as spent Mushroom manure, the Vines will take no harm till the Grapes are used, or cut and bottled. Care is needed in using fire-heat to exclude damp from vineeries at this time of year not to have the pipes above lukewarmness during hours of darkness, or not only will the berries shrivel, but the Vines themselves be impaired. In the best of houses a frequent examination is necessary, as one mouldy berry unobserved soon spoils the whole bunch.

GROWER.

Pear Hacon's Incomparable.—I never remember to have seen this Pear mentioned in the pages of THE GARDEN, although in one of the principal trade catalogues it is named as a large roundish fruit, finely flavoured, and good for garden culture as a pyramid on the Pear. Perhaps the fact that the tree I grew for nine years on a south wall without getting from it a single fruit is accounted for by the tree being grafted on the Quince. I lost all patience with it and finally rooted it out. I do not think it is much grown, but perhaps some reader may be able to give his experience of it. Its season is said to be from December to January.—J. C.

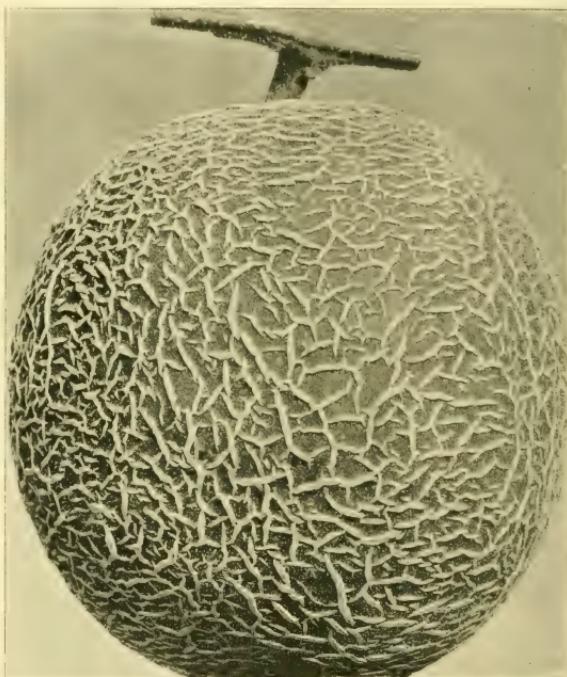
The Pershore Plum for jam.—Some time ago Mr. Young, of Wythe Court, spoke in praise of this Plum from a market grower's point of view, noticing particularly its fine cropping character. Not only is it remarkable in this respect, but it is one of the very best varieties for preserving I am acquainted with—indeed, it is quite as rich as any of the Gagea. This was rather a surprise to me, as in a raw state the

Pershore has not very much juice in it. I am told on good authority that quantities of it are used for making Apricot jam, a little of the latter fruit being added to it. Were I planting 500 Plum trees for market I would include 200 Pershore, so reliable a cropper is it. This and the small blue Plum Early Violet, of which "D.T.F." recently gave a history, are in my opinion the two best preserving Plums in cultivation.—N. N.

MELONS.

One often hears the remark that Melons lack flavour. Doubtless such is the case in certain seasons or with undue haste in finishing the fruit. Many condemn the variety when cul-
ture is to blame. Few fruits are more erratic

but agreeable in flavour and others so poor that I have abandoned the work, relying on distinct home-grown varieties. I must admit at times I give a so-called Continental variety a trial, often with regret, as most of them lack flavour when finished. Culture may be at fault, as our hot, steamy houses may not suit the plants. One often hears Melon-raising deprecated, but in the past some excellent kinds have been raised, and one never knows what may be produced. It may be observed that only distinct kinds should be grown, but one cannot always keep to this good advice, as more than one variety is needed for fertilising and the best results are secured when all the plants are in the same structure. When new varieties



Melon Syon Favourite. From a photograph sent by Mr. G. Wythes, Syon Gardens, Brentford.

in their behaviour than the Melon. Much has been done to give Melons that rich flavour so much liked, by the introduction of new varieties, crossing and fertilising our home-raised kinds with foreign kinds with, in a few cases, fair results. In many others there has been no improvement in flavour, but great variation of shape and colour of flesh, and often a thick, hard skin with only a small amount of flesh and a large seed space. I have for some years endeavoured to get a distinct type by crossing the home-grown Melons with the Indian, African and Persian kinds, but none have come up to my expectations. Some have been anything are raised it is well to get as distinct a break as possible.

The fruit illustrated is named Syon Favourite this and several others being the result of crossing a green and a scarlet-fleshed kind. The variety illustrated was kept for its shape, size, quality, and well-developed fruit, and being alate across its quality may not yet be fully developed. Many Melons fail because too well treated. I have observed that the moment a Melon ceases to swell, food should be withheld. On the other hand, I fail to see why we should starge the plants in their earlier stages if there is the proper amount of soil (not manures) for

roots. One often sees heavy, poor soil advised and no manure of any kind for this crop, but much depends upon the culture to follow. The best Melons I ever grew were in a good soil 6 inches thick on a slate bed over the hot-water pipes. In such a case feeding was an important point in culture. With less manure at the base one can feed freely up to a certain point. There have been many failures by giving excess of food, which causes much top growth, a sparse lot of bloom, and often ends in the cracking or decay of the stems. We have certainly improved in the cultivation of the Melon, as in my younger days one rarely saw more than one crop from a house in a season; now three may be had with ordinary culture. I think a portion of our success is owing to Melons that have been introduced since the date I refer to. In olden times the plants were grown in manure-heated frames, and, of course, they were longer about, but with more glass it stands to reason more variety will be grown. Those who think there should be fewer varieties will admit we have kinds which can be grown more rapidly than some of the older types, there being more vigour in the plants, shorter-jointed wood, and less difficulty in setting. G. WYTHES.

STRAWBERRY KEENS' SEEDLING.

MANY would hesitate to reply to such a veteran as "D. T. F." (p. 365) who has grown Keens' Seedling Strawberry for half a century. "D. T. F." has been a most fortunate grower if he has had Keens' Seedling true for the time named with no failures and a full crop. I have not been so fortunate for half the period he names. My record for remaking what Keens' Seedling failed to fruit freely was this. Some fifteen years ago I took charge of some fair-sized gardens in summer where Strawberries were a specialty, and the very first season for procuring forcing plants I layered a good number of runners from what I was told was Keens', and I had no reason to doubt their being so. I found not one in twenty fruited, and the parent plants were poor in the extreme. I admit I might have purchased, but one cannot always do that. It was a lesson, and I think I can hear my critic saying it was not Keens' at all, but the plants were so worn out probably that all traces of their former good quality were lost. Again, a few years later, with a lingering respect for Keens', I had a few plants sent me; these were anything but fruitful. A lot of plants set out for the true variety was only a mass of leafage and failed to fruit. There are a great many spurious types of Keens' Seedling, and some vastly inferior. I am glad "D. T. F." has not had any experience with them. Through the courtesy of an old grower in the neighbourhood where Keens' Seedling was raised I now have the true stock. The growth of the true kind is much dwarfier. I place La Grosse Sucrée far ahead of Keens' in any garden where special culture is given. As most growers are aware, after the first gathering is taken from Keens' the remainder are very small. I will not say the fruits are not numerous. In some soils it is not so prolific. If I had to select the best half dozen for profit, for quality, and all points combined, the one name would not be included. I may add I grow and force a large number of Strawberries. S. H. M.

Pear Williams' Bon Chrétien.—Mr. Young in a recent issue, refers to the fact that this old-fashioned Pear is never first rate from a wall tree. Not only is this the case in the south of England, but in this country also fruit from walls is very inferior, being almost entirely void of juice and quickly turning mealy. On the other hand, old standard and pyramid trees yield well most seasons, and the quality of the fruit is first rate. A market gardener near here has several large, old trees which this season bore heavy crops, which paid him well, as decay did not set in for a con-

siderable time after being gathered. Those who have this Pear on walls only should certainly adopt Mr. Young's plan of gathering the fruit before it parts very readily from the tree, much longer keeping being thereby ensured.—NOTES.

SOCIETIES AND EXHIBITIONS.

THE PARIS CHRYSANTHEMUM SHOW.

NOVEMBER 17—22.

The Paris Chrysanthemum show must be pronounced a decided success. It was held under the auspices of the National Horticultural Society on November 17 to 22, and for the first time in the Palais de l'Industrie, the shows having been previously held at the society's headquarters in the Rue de Grenelle, which were found last year, owing to the increasing interest in the show, to be far too small for the accommodation of the numerous exhibits. The Palais de l'Industrie is admirably suited for the purpose, for it is a spacious building, well lighted from a glass-arched roof, and is situated in the Champs Elysées and within a stone's throw of the centre of the city. The show occupied fourteen rooms of various sizes in which the pictures of the Salon are annually displayed. These rooms all communicate, and are in the upper part of the building, which is reached by a wide flight of stairs from the ground floor. On each side of the staircase was arranged a pretty border of Palms, Laurels, Euonymus, Hollys, and Deodars, interspersed with very dwarf palms and Chrysanthemums, the whole enclosed within a neat ornamental border made of stones. On the several landings up the staircase were to be found neat little triangular groups of Chrysanthemums in pots principally shown by MM. Delavrier et fils and M. Paillet. At the top of the staircase just before entering the exhibition room, or, more properly speaking, the series of exhibition rooms, was a very fine display of Hydrangeas Hortensia Otakase staged by M. Truffaut, of Versailles.

On the afternoon of the opening the crowd of visitors was immense. The President of the French Republic, M. Félix Faure, visited the show about 3 o'clock in the afternoon, but there was so little chance of inspecting the exhibits, that he decided to come again the following morning at 11 o'clock, when he made a tour of the show, being accompanied by M. Viger, president; M. Henri Le de Vilimor, vice-president; M. Abel Chatenay, secretary, and several other officials. Every day during the afternoon and evening the attendance was large, and the visitors seemed to be keenly alive to the importance of the display, for note-books and pencils were all busily at work. Groups of Chrysanthemums in pots formed a leading feature, for there were in all about twenty-five of them, some containing several distinct exhibits. Cut blooms were largely shown, although not in such large proportions as would be seen at an English show. Most of them were staged in glass bottles, although to this rule there were some exceptions, green-painted short bottles being but few admixed.

The National Chrysanthemum Society of London sent a deputation consisting of Messrs. C. Harman-Payne, Mr. H. J. Jones and Mr. Thomas Bayan, the chairman of the floral committee, whose presence seemed to be much appreciated. The weather throughout the whole of the show was favourable, and although other subjects were largely shown, we can only find space to deal with the exhibits of Chrysanthemums, which were by far the most effective feature of the show.

The jury was divided into six sections, the three first being for Chrysanthemums and the remainder for fruit, fruit trees, shrubs, fine-foliated and other plants, &c. The deputation from the National Chrysanthemum Society formed a part of the second section, which was constituted as follows: President, Mr. C. Harman-Payne; members, Mr. Welker and M. Debré; honorary members, Mr. H. J. Jones and Mr. T. Bevan; steward, M.

Savoye. There were no money prizes offered, all the awards being medals in bronze, silver, silver-gilt and gold in two sizes, the number awarded for Chrysanthemums, fruit and other subjects exceeding 150. In some of the classes the judging began at 8 o'clock in the morning of the opening day of the show; other sections of the jury did not begin till 9 o'clock, and after their duties were over a lunch was given at the Restaurant Ledoyer, in the Champs Elysées, one of the most famous in the city. M. Viger (late Minister of Agriculture, and now president of the National Horticultural Society of France) occupied the chair, being supported by all the officers of the society and many distinguished visitors. Among those present were M. Henri de Vilimor, M. Abel Chatenay, the secretary, M. Truffaut, M. Martinet, M. Salier, M. Ernest Bergman, M. Villard, Mr. H. Falzer, Mr. Harman-Payne, Mr. T. Bevan, Mrs. H. J. Jones, and Mr. Atkin, proposing the toast to the health of the foreign members of the jury, to which Mr. Harman-Payne replied in French, his speech being several times interrupted by applause. Altogether, the reception accorded to the deputation of the N.C.S. was most cordial, and, as at Ghent, their comfort and enjoyment were looked after in the most hospitable way.

The prizes consisted not, as is the case at English shows, of sums of money in various amounts, but of medals of the National Horticultural Society of France and special medals and works of art. M. Félix Faure, the President of the French Republic, offered a work of art, which was won by M. Auguste Nonin, the president of the Chrysanthemum committee of the society, for the general excellence of his exhibit. Considerations of space prevent us dealing with this gentleman's exhibit, which was arranged round three sides of one of the rooms, each side being arranged in semi-circular form and the plants sloping down to the front. Here there were many kinds but little grown in England, and which seem to succeed far better in France. Hairy novelties formed quite an attraction in this group, and Japanese, such as Graphic, Le Mouchoirette, Col. Smith, Etoile de Lyon, Mine, Calvat, l'Île, Mrs. H. Robinson, Duchess of Wellington, Alva's Australian Gold, besides a few well-known varieties, were finely flowered. Two gold medals and two silver medals formed the prize offered by the Minister of Agriculture. It is quite impossible to give anything like a detailed list of the prizewinners for in the various classes there were no fewer than ninety-five separate entries, some of which were remarkably extensive, and nearly all being arranged in quite different parts of the building, so that in some cases where there were five or six exhibitors the collections would be found dispersed in various parts of the show.

The well-known firm of Messrs. Vilimor-Audreux and Co., of Paris, made a grand display, which was beyond doubt the finest in extent in the whole show. It consisted of two enormous collections of cut blooms arranged on a sloping stage covered with black velvet. One of them comprised about 250 cut flowers, and the other about eighty. They also had a large collection with long stems and foliage set up on the other side of the room, with the bottles and pots sunk in green Moss. In addition to these, Messrs. Vilimor and Co. contributed four large oblong groups, 45 feet by 6 feet, in the middle of which was a fine group of Palms, Araucarias, &c., and a huge bouquet of cut Chrysanthemums, the whole display being edged with green Moss. This was much admired by the visitors. The importance of Messrs. Vilimor's exhibit may be estimated when we say that it was arranged in the largest room in the show, and in extent would surpass many an ordinary English provincial show. The dimensions of the room were 100 feet in length by 40 feet in width, and the only other exhibitor of importance in the same room was M. Anatole Cordonnier, whose flowers occupied the upper end of the room. His cut flowers there were very many of the popular American and French varieties, but English novelties were comparatively

few. The finest examples were Vieil Or, a rich golden yellow Japanese; Comte Horace de Choué, a big, compact, massive Japanese incurved flower, with very broad florets, colour deep golden yellow; Mme. Carnot, Directeur Tisserand, and Paula. Amongst the flowers shown with long stems and foliage, Waban, Louis Boehmer, and W. H. Lincoln were good. Commandant Blusset, Syphonia, a greenish yellow Japanese, Heroine d'Orléans, a large white Japanese, not known to English growers, but very freely shown in France; Globe d'Or, the yellow incurved; Admiral Symonds, the yellow single; Japanese; and Commandant Maraignon, a beautiful Japanese with long florets, and of a bright deep rosy amaranth shade, were most attractive.

For the display of Chrysanthemums in groups, Messrs. Vilimorin deserve the greatest praise. A beautiful lot of well grown dwarf plants, all bearing a good number of nice, clean-looking blooms, was shown. Their number was almost beyond computation, and from an English point of view they were of remarkable interest, for there was much that was novel and interesting among them. Here again the average English grower would fail to recognise many of the best, but the following seem to be worthy of being placed on record. For present purposes we need only cite Mme. de Riaz, a large yellow Japanese; Etoile de Lyon, Col. W. B. Smith, Soleil de France, crimson and gold; Amiral Gervais, a very pretty Japanese; with rather broad florets of medium width, colour violet-white, reverse silver; l'Estdard, a large white Japanese and having very long florets; W. H. Lincoln, William Seward, Cullifordia; Lord Brooke, a variety that the French growers seem able to do as well as any; Ella May, a Japanese, very full and double, colour pale yellow; Souvenir Charles Davis, Reine d'Angleterre, M. Chénod de Léché, Calvat's Australian Gold, very fine; G. W. Child, bright and good; M. Oslet, a Japanese incurred, very large in size, florets broad, colour dark violet-crimson, with reverse of golden bronze; Golden Gate, Surprise, C. Harman-Payne, very deep in colour, and a variety as grown in France far richer and finer in every respect than ever we have seen it in England. Other meritorious novelties in Messrs. Vilimorin's groups were Jardinière Berard, a Japanese, with very narrow florets, dull crimson, tipped gold, a useful variety for grouping; Souvenir de ma Sœur, a large Japanese incurred, colour silvery pink; Anatole Cordonnier, a Japanese of a pretty shade of rosy mauve, with tips of pale yellow, striking and effective, and Mme. Valls, a fine yellow Japanese, quite new. There were also very many hairy varieties we have never seen before, and which we may refer to separately on some future occasion.

Messrs. Leveque et Sons sent some groups of Chrysanthemums and Carnations in pots. They were also exhibitors of cut blooms, and their arrangement of them was quite unique. The flowers, all very large show blooms, were placed in bottles on the floor in a sunken bed and the bottles concealed from view by being covered with Moss, a far more attractive method than allowing the bottles to be exposed. M. Oudot, gardener to M. Victoriaen Sardou, also had a group of plants, each bearing some very large blooms. The plants were very dwarf and his Mme. Carnot, C. B. Whitall, Boule d'Or, and Thos. Wilkes were of exceptional merit. M. Vacherot showed a group in 1½-inch pots, for which he was awarded a gold medal. The arrangement was good, being edged with a double row of Cyclamens and Salpiglossis. M. Patrolion, M. Bourreux, M. Delavays, M. Defrèse, M. Géraud, Messrs. Yvon and Sons, and M. Rayout were also exhibitors of plants in pots.

Cut blooms were largely shown, the raisers of new varieties mustering in strong force, for exhibits of new seedlings not yet in commerce came from M. Ernest Calvat, who was awarded a gold medal; M. Nonin, M. de Reydet, M. Heraud, M. Scaramandri, M. Chantrier, M. Morières, and M. Garnichon, to all of whom the Society made a suitable recognition, medals in silver and silver gilt being awarded. First-class certificates were awarded to M. Calvat for the following novelties, Calvat's Distinction, a large white Japanese incurred, which after the visit of the President of the French Republic was named Mlle. Lucie Faure; Czarina, a large Japanese incurred, with very long florets rather broad and pointed, colour a pretty shade of rosy amaranth, reverse silvery pink, a compact solid bloom; Lawrence Zédré, a big, solid Japanese incurred, very broad deep florets, sharply pointed, colour rosy amaranth, reverse deep silvery pink; Mme. Bergier, another large variety, a Japanese with great length of floret, colour white, shaded and streaked pale pink, tips yellow; Mme. Deje, Japanese, with very long florets of medium width, colour pure creamy white; Mme. Xavier Rey Jouvin, a very pretty Japanese incurred, with broad grooved florets, of good size and substance, very globular, a pretty shade of deep rose pink, and slightly hairy at the tips; Westinghouse, Japanese incurred, rather broad florets, colour white shaded with reverse saffron sulphur white, tips faintly marked with yellow. First-class certificates were also awarded to M. Heraud for Mme. Filicule Broz, to M. Nonin for M. Pierre Cattant, to M. Ouestier for Léocadie Gentilis, a yellow sport from Enfant des deux Mondes; to M. de Reydet for Ernest Verdet, and to M. Scaramandri for Louis Sirtori, a Japanese, with broad florets, colour golden bronzy chestnut tipped and edged yellow; Mme. Thérèse Chavet, a very pretty shade of soft pale pink, reverse silver; Piémont, one of the Japanese incurred type, broad grooved florets, colour streaked pink on a white ground. For the best fifty cut blooms, M. Oudot was awarded a gold medal with what must be regarded as the finest display of cut blooms in the show. They were all of immense size, and would have been a credit to any English exhibitor, but they were not set up in the best form, and consequently looked a little rough. Remarkably good in this lot were Le Drac Phœbus, Calvat's Australian Gold, Lilian B. Bird, Herminie d'Orléans, and C. B. Whitall. M. Raguena's collection was probably the next best. He had Rider Haggard, the Japanese Anemone in gigantic proportions, and others, such as Mrs. Weston Payne, Mlle. Thérèse Rey, Harry Wonder, Grec Gracious, Etoile de Lyon, and several American varieties were all in excellent form. M. Couillard (the registrar of the French N.C.S.) had one or two collections of cut blooms among which there were several very good flowers; Waban, Mrs. E. D. Adams, Mme. Calvat, Mrs. Geo. West, Mme. Rozain, Le Coq, Grenoblois, Hairy Womble, Antoinette W. H. Lincoln and Etoile de Lyon all being good. M. E. Rosette also staged an extensive collection of cut flowers of Japanese varieties. Some very fine examples of cultivation were to be found in his collection, the best being Mme. Ag. Nonin, a large Japanese incurred, with rather narrow florets, colour deep chestnut, with sharply pointed grooved florets, tipped yellow. Mme. Leblanc was another. Mme. Chauré, Phœbus, H. Jacicot fils, Charles Davis, Mrs. J. Lewis (a new white Japanese), Le Rhône, Triomphe de St. Laurent and Mme. C. Champion were also very fine; but in this collection, as in most of the others, the principal varieties bore names with which English growers are quite unfamiliar. M. Anatole Cordonnier—the well-known Chrysanthemum specialist of Beldar (Nord)—also made a remarkably fine display of cut blooms. These were arranged with long stems and placed in bottles of water on a stage fixed to the wall of the largest room in the show. Behind the blooms, to lend variety to the exhibit, were placed Palms and fine foliaged plants, but the flowers needed very few ornamental surroundings to show off their merits. From an English point of view they were almost, if not quite, the best in the show and would undoubtedly have gained a gold medal, but for the fact that many of the blooms were not named. They were all very large show blooms, and the only ones that could be compared with them were shown by M. Oudot, gar-

dener to the well-known play-writer, M. Victoriaen Sardou. In M. Cordonnier's collection special mention should be made of Mme. Carnot, Julian Hillfort, Ph. de Wolfe, a large, massive yellow Japanese; Mrs. George Gordon, a fine pale yellow Japanese; Rider Haggard, a large Japanese Anemone; Etéole de Lyon, Desdemona, Mrs. H. Robinson, a grand white Japanese; M. Chénod de Léché, which was really remarkable, one in every exhibit in which it was shown throughout the exhibition, thus proving it to be a show flower of the greatest merit. Other exhibitors—Mrs. Geo. West, big and massive; Mme. Garbe, a noble white Japanese, not much known in England; Vivian Morel and others. In this exhibit two well-known American varieties were shown; one of them (Philadelphia) was rough and coarse, and in spite of that variety being awarded a silver-gilt medal by the English N.C.S., seems hardly likely to remain a favourite either here or in France. Major Bonaffon (the other) was fairly good, and the colour, pure pale yellow, far more attractive.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 24.

A MEETING full of interest both to lovers of flowers and to the fruit grower was that of Tuesday last. It was not, it is true, of such extent as many previous ones, but it was replete with variety and attractiveness.

Chrysanthemums from various sources were of course the most prominent amongst flowers, and it is a pleasure to note the almost entire absence of the conventional show boards, which a few years back would have been considered as absolutely necessary to display the flowers in anything like their best style. The flowers on this occasion were chiefly arranged in earthenware bottles, the very largest as singles, but the majority as triplets or in bunches. These came from the usually well-known sources and bore ample evidence of the favourable condition of the weather for preserving the blooms. Of other flowers there were a few early Cyclamen persicum of sturdy growth, bearing good flowers. The blue form of Primula sinensis was also shown well, although a few plants of Carnation were most acceptable for their fragrance, although they would not possibly find favour with the rigid florist by reason of their fringed petals (this strain has apparently some of the Marguerite character in it).

Before the Orchid committee there was an abundance of rich and choice things, both of hybrids and of species. Of the latter the most noticeable of all was a splendidly flowered example of Vanda cornuta from Mr. Woodall, Scarborough. It was the finest plant beyond any question that was shown at this meeting, and one worthy of the best possible commendation. It was in most robust health, with abundance of roots and dark green, sturdy-looking foliage. The mass consisted of some seven leads with five spikes of bloom, the largest with as many as ten flowers, and these in every case of extra size, freshness, and colour; the colour was a deep blue with lighter mottling, and the lip, as in the best forms, quite a dark blue. This plant affords an object lesson in the culture of this somewhat fractious species from the fact that from first to last it had been grown in a viney. Perhaps those cultivators who have not hitherto succeeded to their satisfaction will take note of this, and not yet despair of its culture. Of other noteworthy exhibits particular mention should be made of Lælio-Cattleya Dacina, a large and beautiful hybrid which it would be almost impossible to conceive of anything more perfect. Of Odontoglossa, one should be made of a hybrid, being one of the first raised in this country; this is also a most distinct acquisition, with affinity to O. crispum and O. Hallii to all appearance. Some very choice and unique rarities were sent from The Dell collection, and from other sources came several most interesting and beautiful exhibits. The most notable of these was Lælio-Cattleya albanensis Lady Brougham, which bears a distinct resemblance to L. grandis tenebrosa, the

paler-coloured sepals and petals being flushed with pale violet. The Veitchian hybrids are likewise in strong force, making a profuse display.

The fruit committee did not have a heavy duty to perform. Several good and particularly well-coloured examples of Apples were staged, and the interest continues unabated in the competitive classes for flavour. Some well-grown examples of Smooth Cayenne Pines were sent from Windsor, handsome and weighty fruits.

Orchid Committees.

First-class certificates were awarded to the following:—

ODONTOGLOSSUM HALLI CRISPUM.—A remarkable hybrid Odontoglossum raised by Mr. Murray between the two species from which the name is derived. The sepals are creamy white, with several large dark brown blotches; the petals whiter than the sepals, with one large dark brown blotch in centre and numerous smaller spots of the same colour towards the base; the lip white, shading to yellow at the base. This is one of the most interesting hybrid Orchids, this is the second Odontoglossum that has been raised artificially. From Mr. N. Cookson, Wylam-on-Tyne.

CYPRIPELUM BARON SCHREDERI.—This is one of the finest hybrid Cypripediums raised. It is a cross between *C. Fairieanum* and *C. cananthum superbum*, the latter being the seed parent. The dorsal sepal is white, shaded rose at the top, pale green at the base, heavily lined and spotted from the base upwards with bright purple. The petals have the drooping character of the pollen parent, the pale green, heavily lined with dark brown, the lip deep orange, shading to pale green. From Messrs. Veitch and Sons.

LELIOT-CATTELYA DECIA ALBA.—L.-C. Decia was raised by Mr. Seden from Lelia Perrini, crossed with Catteleya Dowiana, and it has been previously certificated. The variety now exhibited differed from the typical form principally in its white sepals and petals, which were of fine form and substance. The lip was also totally different, being of a rosy lilac in colour, the basal part lilac, veined with white and having a slight suffusion of yellow in the throat. It is one of the most remarkable variations we have seen among seedling Orchids from the same pod. From Messrs. J. Veitch and Sons.

Awards of merit were adjudged to the following:—

CATTELEYA TIRESIAS.—A hybrid between *Catteleya Bowringiana* and *L.-C. elegans Turneri*. The sepals and petals are rose-purple, lip crimson-purple in front, side lobes purple, shading to white at the base. It is a distinct and desirable variety. From Messrs. J. Veitch and Sons.

LELIOT-CATTELYA APOLLONA.—Said to be a hybrid between *Lelia purpurata* and *Cattleya Dowiana*, but from the season of blooming and general character of the flower it seemed to us to indicate that *Lelia crispa* had been used as one parent. It closely resembles forms of *L.-C. Pallasii*: the sepals and petals pale rose, much fringed, lip deep crimson-purple, heavily fringed and margined with light rose, the side lobes rose, veined with yellow, the base of the throat suffused with deep purple. From Mr. J. Douglas.

CATTELEYA LARITA VAR. ASHFORD.—A remarkably fine form with deep rose-purple sepals and petals, the lip crimson-purple, margined with rose, the side lobes purple, shading to yellow at the base. This is one of the darkest varieties we have seen. From Mr. G. S. Ball, Manchester.

LELIOT-CATTELYA JUVENALIS.—A cross between *L. Perrini* and *L. Dayana* var. *Dayana*. Though the petals could be distinctly traced, there was no sign of the characteristic line in the throat of the variety *Dayana*. It is a lovely addition to the dwarf-growing section. The sepals and petals are deep rose, lip crimson-purple in front, shading to pure white in the throat. From Sir T. Lawrence, Burford Lodge, Dorking.

LELIOT-CATTELYA ELEGANS SCHILLERIANA (Ashworth's var.)—A remarkably fine form of this natural hybrid; sepals and petals white,

shaded with rose, lip rich purple in front, side lobes white, margined with purple in front. It is much larger than the typical form. From Mr. E. Ashworth.

SOPHRO-LELLA MARIOTTI.—A bi-generic hybrid, the result of crossing *Sophronitis grandiflora* and *Leilia flava*. The sepals and petals are orange-yellow, lined and shaded with red, the lip yellow, veined and suffused with red. The flowerscape bore three flowers. From Sir W. Marriott, Down House, Blandford.

A botanical certificate was awarded to Mr. F. W. Moore (Glasnevin) for *Acanthophippium javanicum*, a variety with large Angulosa-like flowers, greenish white, shaded pink and lined with brown.

Messrs. J. Veitch and Sons were awarded a silver Flora medal for a fine group consisting of five hybrids and species which were effectively arranged. Prominent amongst these were numerous forms of *Cypripedium Lecanum*, *C. Arthurianum*, *C. Arthurioides pulchellum*, C. T. B. Haywood, C. Euryades, several forms of *C. Niobe*, *C. Dauthieri luteum*, like the green form of *C. Harrisianum*, and the remarkable *Dendrophion subclavatum* with its coral-red flowers. *D. glomeratum*, another New Guinea species, was represented by a large specimen with numerous pink flowers. *D. eucomum virginalis*, *Lelia-Cattleya Pallasii*, a fine spike with fourteen flowers of *Phalaenopsis Vesta*, sepals and petals rose, shading to a lighter colour at the edges, lip purple, shading to yellow at the base, and the new hybrid *Leilia Omen*, a cross between *L. autumnalis* and *L. purpurata*, were also shown here. Messrs. F. Sander and Co. were awarded a silver Banksian medal for a neat group containing fine forms of *Cattleya labiata*, *Lelia-Cattleya albanensis* var. *Lady Brougham*, *Odontoglossum Kramerii* and its variety *albium*, a dark form of *Cymbidium giganteum*, *C. Winnianum* with creamy white and purple flowers, and several finely flowered plants of *Dendrobium Johnsonii*. *Cypripedium Lecanum* was represented by several forms, the most remarkable being *C. L. luteum*, the flowers rising upwards in 3 ranks across. C. Mrs. C. Maynard, a hybrid between *C. nitens magnificum* and *C. Boxallii*, and several finely flowered plants of *Sophronitis grandiflora* were also included.

Baron Schreder was awarded a silver Banksian medal for a group of rare cut Orchids, consisting of *Odontoglossum Chestertonii*, the sepals yellow, heavily spotted with reddish brown, the petals yellow, with a few small spots in centre; the lip bright yellow, with a large brown blotch in the centre; O. *Wilkeanum Godfreyae*, an extra-large-flowered variety, sepals and petals yellow, heavily spotted with purple-brown, the lip yellow, with large brown blotch in centre; *Lelia-Cattleya exoniensis*, *Cattleya Baron Schrederi*, sepals and petals deep rose, lip rose in front, shading to white in the centre, the throat and base of the lip bright orange-yellow. *Sophro-Cattleya Calypso*, sepals and petals bright rose-pink, lip crimson-purple in front, the base and side lobes bright orange-yellow, *Cypripedium insigne Sandersii*, *C. Niobe*, and good forms of *Dendrophion Phalaenopsis* were also sent. Mr. W. Thompson, Stone, sent a fine plant of *Odontoglossum elegans*, with upwards of thirty flowers on the spike. Mr. Welbore Bryant, Stoke Park, Slough, sent a fine form of *Cattleya labiata autumnalis*, with four flowers' *Admiral Cator*, King's Langley, sent *Cymbidium cyperifolium*, a distinct and pretty species, with flowers like those of *Traceyae*, but greatly reduced. Mr. E. H. Woodall, Sculthorpe, sent a remarkably fine mottled variety of *Vanda sanderiana* which bears five flowers. A cultural commemoration was awarded. Mr. R. J. Measures sent *Cypripedium Edardii* (*C. Fairieanum* × *C. Veitchii*), one of the most distinct of the Fairieanum crosses; C. *Regina*, recently certificated; *C. Niobe* and *Lelia-Cattleya Salicetti*, the sepals and petals delicate rose, lip rose, veined with purple in front, white towards the centre, suffused with yellow at the base. Sir Trevor Lawrence sent *Sobralia Lindenii*, a distinct spe-

cies, sepals and petals white, shaded with rose; lip white, lined and splashed with purple. Mr. R. Young, Liverpool, sent a group of cut flowers, consisting of *Cattleya labiata*, numerous forms of *Cypripedium insigne*, *C. Niobe* and various other sorts. Frau Ida Brandt, Zurich, sent numerous cut Orchids, consisting of fine forms of *Vanda corollata*, *Cypripedium insigne*, *C. Leeanum* and various other species. Mr. R. Worthington sent *Catatanum splendens* (Worthington's variety), a dark form resembling other previous certificated forms. Mr. G. S. Ball sent *Cattleya labiata* alba with three flowers. Mr. E. Ashworth showed *Lelia autumnalis*, Lucy Dodd, identical with *L. a. alba*, and a species of *Epidendrum* with flowers like a Nandina. Mr. N. Cookson sent *Cypripedium Chapmanii*, recently described, confirming the parentage, it having been previously raised in Mr. Measures' collection at Camberwell. Miss N. Roberts, Loughborough Road, Brixton, sent a collection of water colour drawings, and Mr. W. Thompson had a collection, execute*i* by Mr. Macfarlane.

Floral Committees.

A first-class certificate was given to—

DRACENA BROMFIELDII.—A decidedly distinct plant in every respect and one of the best new things shown amongst the foliage plants for a long time. It belongs to the same section as *D. crenata*, from which it is, however, totally distinct, the leaves being broader, more rounded, at least four times as long as the petioles, and are each about 18 inches long and 2 inches wide. The variegation consists of a broad marginal line of pure white, which descends directly down to the stem, the bright green being relieved in an irregular manner with silvery green throughout the rest of the leaf. From Messrs. F. Sander and Co., St. Albans.

Awards of merit were voted to—

RHODODENDRON CLOTH OF GOLD (Javanico-maculiflorum section).—A pure rich shade of pale golden yellow provided by this beautiful hybrid, the flowers being 3 inches across and of rare substance, and not at all formal in shape, all being not at all unlike miniature blossoms of an Alangium. The trusses are large and freely produced, whilst the foliage is broad and leathery-looking, with an addition of an excellent habit. From Messrs. J. Veitch and Sons, Chelsea.

BEGONIA ENSIGNI (B. tuberosa sect. × B. socotranus).—This is an acquisition to the winter-flowering section of Begonias; the blossoms are double, rosy carmine in colour and of good form, the trusses, too, being evidently disposed to yield a plentiful supply of blossoms. The growth is robust and rather tall. From Messrs. J. Veitch and Sons.

SONNERATIA LEOPOLD II.—A rather robust-growing variety, yet of bushy habit, the foliage being of a dark olive-green and profusely studded with minute silvery spots. The flowers, however, are its chief attraction, these being produced in profusion, and of a pinkish mauve colour. From Sir Trevor Lawrence, Burford Lodge, Dorking (gardener, Mr. Bain).

CHrysanthemum (JAPANESE) MRS. JOSEPH THOMPSON.—A lovely variety of incurved form, with long and broad flowers, possessing singularly substantial flowers, which are of large size, are easily double in colour. This is one of the best of all the large-flowered varieties seen this season. From Sir Trevor Lawrence.

CHrysanthemum (JAPANESE) A. OWEN.—A seedling from Robert Owen, the colour a bright golden yellow, the flowers broad and of great length, assuming with age a drooping character, as in *Boule d'Or*. The irregular formation of this variety is an additional charm. From Mr. Robert Owen, Maidenhead.

CHrysanthemum (JAPANESE) GOLDEN ELSIE.—A bright golden yellow sport from *Elsie* and of very free and profuse habit with capital trusses of bloom. It is an excellent market variety. From Mr. B. Ladham, Shirley, Southampton, and Messrs. H. Cannell and Sons, Swanley.

CHrysanthemum (Anemone Pompon) GEM of Earlswood.—This is a distinct addition to its class with flowers of full size for its section, the colour is sulphur yellow, whilst the guard petals are of a pale yellowish shade. From Mr. Wells, Earlswood, Redhill.

CHrysanthemum (Inverness). Miss Louise de Blaauw.—A promising looking variety with some slight suspicion of Japanese blood in it. The build of the flower is not unlike that of C. H. Curtis, but the colour is much deeper, being more in the way of Bronze Jardin des Plantes, a decided bronzy yellow, the flowers very full and deep. From Mr. Wells.

Considering the weather and the time of the year, the number of exhibits submitted to this committee was very large. Chrysanthemums were shown in great variety and in admirable condition. Very attractive was a large group of cut blooms of new varieties from Mr. Robert Owen, Maidenhead. The following were especially notable : C. A. Owen, John MacGee, a large and shapely Japanese, florets light yellow, tinged with rose; Adelae Russell, a small and very handsome decorative variety, bronze-yellow; Simplicity, a very beautiful and graceful white, and Mrs. T. D. Hatfield, a small, but very pretty yellow incurved (silver Banksian medal). A small group of cut Chrysanthemums came from Mr. T. S. Ware, Tottenham. The chief attraction in this group was the number of charming single varieties, among them Miss Lulu Martin (a pretty rose-pink), Mr. A. Double, Mrs. Langtry and Mr. Smith Rylands. A handsome bronze-yellow incurved Japanese, also some fine blooms of Golden Gate, were noticeable. Some good new varieties came from Mr. W. J. Godfrey, Exmouth. Among these were Egyptian, a fine dark red incurved Japanese, but with a bad centre; and Olive Ocole, a curiously coloured yellow and lilac flower. A very attractive group of cut Chrysanthemums, containing some singles of rare beauty, came from Mr. W. Wells, Redhill. Especially attractive were Muriel Foster, a large and graceful single with long florets of bronze and yellow; Eucharis, a very pure white; Yellow Giant, a huge yellow single, very showy ; Mabel M. Wells, a shapely dark red single; Diversa, a very pretty yellow with long thin florets; Gem of Earlswood, a compact flower with disc florets yellow and quilled, and ray florets a soft pink; Lady Hanham, a pretty flesh-coloured sport from Vivian Morel; James Lynch, a stiff-looking dark red; and Calvat's Australian Gold (bronze Banksian). A good group of cut Chrysanthemums was shown by Mr. Rickwood, gardener to the Dowager Lady Freake, Fulwell Park, Twickenham. Perhaps the best varieties were Miss Dorothy Sheas, Duke of Wellington, Challenge, Col. W. B. Smith, Etoile de Lyon, Mlle. Thérèse Col., and John Shrimpton. Another much smaller collection of cut blooms was sent from Mr. Batchelor, gardener to Lieut.-Col. Vernon, Uxbridge.

A collection of miscellaneous cut Chrysanthemums, containing some pretty decorative varieties, came from Messrs. Young and Dobinson, Stevenage, Herts (bronze Banksian medal). Two boards of magnificent show blooms come from Mr. C. E. Shea, Foot's Cray, Kent. One variety shown was in fine condition (silver Banksian medal). An effective group, consisting of decorative plants, chiefly well coloured Crotons, and mixed with cut Chrysanthemum blooms, was shown by Mr. Davies, gardener to Mr. W. F. Darnell, Stamford Hill. Although slightly heavy, the arrangement of the group was decidedly striking (silver Banksian medal). Two pretty seedling Primulas, dwarf, starchy plants, came from Mr. D. Kemp, gardener to Mr. W. Bryant, Stoke Park, Slough. One was a good white, the other a somewhat ineffective dull blue (silver Banksian). A group of Cyclamen and Carnations came from Messrs. Hugh Low and Co., Bush Hill Park, Enfield. The former were healthy plants, bearing large finely coloured blooms. The best of the latter were Buttercup, Mrs. Nicholson, Hector, and W. Scott (silver Banksian).

From Messrs. J. Veitch and Sons came a basket of Begonia Ensign (tuberous var. *x* socotrina) and Begonia Myra (also tuberous var. *x* socotrina); a box of javanico-jasminiflorum hybrid Rhododendrons, containing the most beautiful of these always charming flowers. Very noteworthy feature of the show was a group of Dracunculus, including fifty varieties, shown by M. R. Giltow, Melbourne Nurseries, Bexley Heath. Every plant was in fine condition, healthy and well grown, and splendidly coloured. The arrangement was all that could be desired (silver gilt Flora medal). Another small collection of cut Chrysanthemum blooms was shown by Messrs. Cannell and Sons, Swanley, including Miss D. Hawkins, a nice single for cutting; Mrs. E. Cannell, a nice flower in two shades of lilac; Pride of Swanley, a globular white, and C. F. Payne, a handsome golden yellow.

Fruit Committee.

The exhibits before this committee were fairly numerous, and in several cases of exceptional merit. The Pine-apples from Frogmore and the Apples from Mr. Shea were above the usual standard, and the Veitch prizes for flavour brought out many exhibitors.

Awards of merit were given to—

APPLE ST. MARTIN'S.—This is a remarkably fine dessert fruit, the flavour almost equal to that of a good Cox's Orange. This is a valuable addition to our mid-winter fruits, as it is an excellent keeper. It is a conical fruit and above medium size. From Messrs. Rivers.

APPLE LIVERMORE FAVOURITE.—A very pretty Apple, deep crimson, of medium size, flesh firm, and a good cropper. This should prove a valuable market fruit. From Mr. J. C. Tallack, Livermore Park, Bury St. Edmunds.

APPLE CLAPHAM BEAUTY.—A medium sized fruit, in appearance much like Cox's Orange, but later and of excellent flavour. The fruit is flushed with red on the sunny side, flesh firm and rich. From Mr. H. J. Sheppard, Bedford.

From the Royal Gardens, Frogmore, Mr. O. Thomas sent a dozen grand Smooth Cayenne Pines, the fruits having small crowns and being of perfect shape and nicely ripened, well meriting the silver gilt Knightian medal. Mr. C. E. Shea, Foot's Cray, Kent, staged a dozen dishes of Apples remarkable for their size and colour. Gascoigne's Scarlet was a black red and very fine, and the same remarks apply to Peppermann's Red Reinette, Beauty of Kent, and Blenheim Orange. Mannington Pearmain, Cox's Orange, Lane's Prince Albert, Reinette du Canada, and Wellington were also remarkably fine. Pears, including Verulam, Catillac, Leon Leclerc, and Olivier des Serres were also very fine (silver Banksian medal). Messrs. Peed and Son, West Norwood Nurseries, staged forty dishes of Apples and Pears, the Pears mostly stowing kinds. The best Apples were Blenheim Orange, Lord Derby, Lady Henrietta and Walham Abbey Seedling (silver Banksian medal). Col. Vernon (gardener, Mr. Batchelor), Uxbridge, staged twenty-four dishes, mostly Apples and a few Pears, with Tomatoes and Medlars, which appears to be specially good this season. We do not think the use of coloured shavings under each variety adds to effect (bronze Banksian medal). Messrs. Rivers, Sawbridgeworth, sent a new Apple, Bank's Hill Apple, a good fruit, but lacking flavour. Mr. Fox, Spring Green, Gardens, Illeworth, sent a nice dish of American Mother Apple. Mr. Wythes, Syon House, Brentford, sent now a stickotide, a selection from Vilmorin's White, a long tube, smooth, and of superior quality. Mr. Thomas sent a dozen very nice fruits of Frogmore Prickly Cucumber. The same exhibitor sent Tomato Royal Windsor, a very fine fruit with yellow skin, and of good quality. It was requested to be sent to Chiswick next season. Messrs. Young and Dobinson, Stevenage, sent two dishes of their Tomato Young's Eclipse, but lacking colour.

The Veitch prizes for flavour brought forth numerous competitors, no less than eight staging Pears, the premier award going to a grand dish

of Beurre du Buisson, a melting and delicious Pear almost equal to Doyené du Comice. The fruits, grown on an east wall, came from Mr. Divers, Belvoir Castle Gardens, Grantham. Mr. Thomas, Frogmore, was second with Knight's Monarch. We would have preferred Mr. Woodward's grand dish of Winter Nolis, the flavour being much richer. For Apple, no less than twelve staged, but Cox's Orange was to the fore, Mr. Herrin, Dromore, having the best out of our many lots. Mr. Divers was second with De Neige, commonly called Pomme de Neige, but, as regards flavour, the five Ribstones of Dr. Pierce, Ramsgate, looked more to our liking, De Neige being melody. Some fine Melon and other Apples were shown for these prizes.

Home of horticulture.—My letters upon the above, which have appeared in several of the gardening papers, have not passed unnoticed, and I have received numerous replies, all admitting the desirability of forming a Home of Horticulture, but no one has made any suggestion as to ways and means for its accomplishment. I have give considerable thought to this subject, and am persuaded that with united effort a home for horticulture may be formed. Time is of value and none should be lost. To make a move in this matter, I would suggest to submit a plan for the proposed building and a scheme for providing the necessary funds. The selection of the most suitable site is of the first importance, and I would, therefore, suggest that a meeting should be convened at an early date for this purpose. I propose very shortly to put this scheme before your readers, so that they may have a comprehensive view of its details.—JAMES L. WOOD, Oakleigh Park, Whetstone.

The weather in West Herts.—The past week has been on the whole about seasonable in temperature. On the 12th inst. the temperature in shade rose to 52°, which is the highest reading recorded here since the middle of October, but on no other occasions were the day temperatures in any way unseasonable. There occurred only one cold night, when the exposed thermometer showed 7° of frost. On the 17th the difference between the highest and lowest readings in shade was very small, amounting to only 2°. At 2 feet deep the temperature of the soil is now 3°, and at 1 foot 2° below the November average. About half an inch of rain has fallen, bringing up the total for the month, as far as it has gone, to 14 inches. The winds have again been light and the air dry at midday. The record of bright sunshine proved much below that of the previous week, three days being altogether sunless.—E. M., Berkhamsted, November 21.

—A week of changeable weather as regards temperature. For instance, the highest reading in shade was 52° on the 21st, but only 39° on the 25th. Again, on one night the exposed thermometer did not fall below 40°, whereas three nights before it indicated 9° of frost. On the 21st the difference between the lowest and highest temperatures in shade amounted to 20°, but a few days later the range was only 2°. Both at 1 foot and 2 feet deep the soil is now about 3° colder than the November average. No frost has been recorded for ten days. The atmosphere has lately been very calm, and on the 23rd at 20 feet above the ground the average rate of movement was only about a mile an hour. Previous to the 22nd there had been this month a good record of sunshine for the time of year on most days, but since then no sunshine at all has been recorded.—E. M., Berkhamsted.

Protecting bulbs.—Can any reader inform me how to protect bulbs in a loose, light soil from squirrels, mice, and other vermin? The farmer here puts vitriol water on his wheat before sowing it, and finds this very effectual. Could the same be done safely and effectually with bulbs?

B. D. H.

** Rolling the bulbs in red lead would be a better way.—ED.

No. 1307. SATURDAY, December 5, 1896. Vol. L.

*"This is an Art**Which does mend Nature; change it rather; but
THE ART ITSELF IS NATURE.—Shakespeare.*

ORCHARD AND FRUIT GARDEN.

CANKER IN FRUIT TREES.

ONE of the worst diseases incidental to fruit culture is canker. It is to be met with in the Apple, Pear, Peach, Plum, Fig, and probably other fruit trees, and in many cases they are practically ruined by it. Young as well as middle-aged and old trees are liable to it, and the disease is of so infectious a character as to spread from one tree, newly introduced it may be, right through a garden or orchard. That is the case with the true canker (*Nectria distissima*), a fungoid disease, and if, as we are told, there is no real remedy for this, there must be other and less deadly forms of canker. I do not propose to raise a discussion upon the subject, but I think that whenever instances of a bad attack of canker in any form having been successfully combated are met with, they ought to be chronicled.

Each time I have seen the fruit trees in the gardens at Cirencester House, Cirencester, their appearance has impressed me most favorably. A more serviceable, better managed collection could not well be found, these remarks applying equally to wall as well as horizontally trained, pyramidal and bush trees in the open. Some few of them are comparatively young, but the majority were found by Mr. T. Arnold when he took charge of the gardens twelve or more years ago. At that time they were in a sorry plight and of little or no value. Hard pruning had long been the order of the day, so that many of those in the open were like huge brooms. All were more or less affected by canker, and the question was, should a wholesale clearance take place or an attempt be made to restore them to a more satisfactory condition? Mr. Arnold decided upon the latter alternative. He soon found that the trees were buried too deeply—a state of affairs only too common. It appears that for each tree a large hole, 6 feet in diameter and 3 feet deep, had been dug, and this was first paved with stones and then filled with rich loam. According to the position in which the tree roots were found, they must have been planted deep at first and no allowance made for the settlement of new soil; whereas with so much fresh soil this ought to have been made quite firm, and the collar, or point of union of topmost roots with the stem also kept well above the ordinary garden level. Failing to take these precautions invariably leads to the trees sinking, and levelling garden soil about them buries the stems to a most injurious extent. Mr. Arnold's first proceeding was to lilt all these trees. Each was sufficiently undermined to admit of three short, stout planks being inserted under, and six men then lifted them bodily out of the hole. After refilling the holes, making the soil solid this time, the tree was returned to its old site, the roots carefully pruned and relaid in fresh compost. They were planted high without being unduly raised, and have not got down to quite the garden level since.

The next proceeding was to freely thin out the branches, taking out as many cankered ones as possible. Had he not thinned out the trees thus severely, the chances are both top and root growth would have been com-

pletely paralysed, but pruning restored the proper balance, and during the following summer the progress both above and below the surface was encouraging. Considering the age and size of the trees, this act of completely lifting them in one season was a violent remedy, but it was a case of kill or cure, and Mr. Arnold has every reason to be proud of his success. Not content with bringing up the roots to where they get the benefit of warmth, food, and a congenial run, he also decided to completely change the character of the branches. All the old ones have been gradually replaced with healthy branches furnished with fruiting spurs, and being a firm believer in the superiority of young over comparatively old branches, the latter have to come out wherever more room is required for the few strong young growths reserved each season. Large bushes or trees with open centres are preferred to pyramids, and every branch has a clear space to itself. There is no pollarding and not an unfruitful tree to be seen. Since the trees were lifted they have been twice root-pruned, the last operation of this kind having taken place four years ago.

What about the canker? Mr. Arnold has not wholly got rid of it, but according to my experience there are few gardens in the country wherein little of it is to be seen. As soon as the trees were restored to a more healthy state, this disease gradually disappeared. Branches, as before stated, much over-run by it, in some instances to the extent of eating through the greater portion of the bark and wood, were cut out to near the main stems, and affected portions of smaller shoots were also cleanly removed and burnt. Most of the wounds healed properly, and I was shown numerous instances of old canker wounds having been nearly or quite healed over with healthy, fresh bark. This experience fully corroborates the theory that trees rooting in an unsuitable and, in particular, poor ground long since exhausted by fruit trees of all that goes to make it fertile, are the most liable to a bad attack of canker, and, further, that the only remedy is lifting, root-pruning and relaying the roots in better soil. By better soil I do not mean a rich compost, but rather a mixture of fresh loam, mortar rubbish, burn-bake and bone-meal. Those trees at Cirencester must have grown very rankly, owing to the excess of rich soil, for a great mass of newly-cut turves must be termed rich, or at all events is calculated to promote a rank growth for a time, and this was a predisposing cause of canker. It does not follow that the other extreme is judicious, and Mr. Arnold fully recognises the fact that it is only by feeding the trees in a rational manner that they can be kept in a canker-resisting, profitable state. The condition of the foliage and size of the fruit convinced me that the trees were receiving fairly liberal treatment at the roots, and looked round for the manure tank. I learnt, however, that Mr. Arnold had hit upon a very cheap and effective fertiliser for the fruit trees under his charge. Outside the garden walls and within easy access of carts a large deep ring of soil is formed, and this is filled with blood, covering the latter with fine soft ballast or burnt clay. After twelve months have elapsed, the mass is in a fine powdered state, and with a few bushels of wood ashes added, mixing all well up together, a valuable manure is the result. One barrowload of this is sufficient for three large trees, and all receive a dressing each winter directly after they are pruned.

W. I.

Dessert Cherries.—The writers who contributed a lament over the few Apricots to be

found in our gardens might have reasonably extended their remarks to dessert Cherries, for certainly these are not often grown as their merits deserve. In the case of large gardens they naturally play a prominent part, but in most places they are seldom found on walls and are represented only by an occasional standard or bush tree. Now I cannot help thinking that where wall-space exists to any reasonable extent a place should be found for at least a few Cherries, say four trees that will ripen successively. It is certain that good Cherries are almost as much appreciated at the dinner table as any fruit one can offer. The advantages of a wall for dessert Cherries (I am leaving orchard-house cultivation quite alone) are three-fold, facility for protection alike from spring frosts, and birds, and earlier ripening; the two first practically mean the certainty of a crop, for by their aid I do not remember a failure in the last dozen years. Flimsy and fragile as the petals of the Cherry blossom appear, the flower is harder than that of any other fruit, Apples, perhaps, excepted, and will withstand several degrees of frost; heavy storms of cold rain and sleet setting right at the trees are, however, injurious when they are in flower, and for this reason it is always advisable to give them high, dry protection, such as a sheet of fish netting. As this latter is also absolutely essential to keep off the birds, it might remain on the wall until the fruit is cleared, were it not that its removal is generally necessary to enable the grower to deal with the black aphis, the chief enemy one has to deal with in the culture alike of dessert and Morello Cherries. I find a south-west wall, the best situation for dessert Cherries, our natural soil being all the better for a liberal percentage of stiff loam and a hoary surface mulching, advisable in dry summers. By making a selection of different kinds, fruit may be obtained for nearly two months from the one stretch of wall, say from half a dozen trees. I have not tried some of the newer kinds, but sorts that do well and can be relied on for successive pickings from early in June till the end of July are Early Purple Gean, Wedder's Black, Black Eagle, Governor Wood, Frogmore Bigarreau, and Bigarreau Napoleon. Florence does not ripen satisfactorily on this south-west wall. I shall try it in a rather warmer place.—E. BURRELL.

BAD-KEEPING APPLES.

MR. IGGULDEN's list of soft, unsuitable Apples for market might have been considerably lengthened, there being others besides Duchess of Oldenburg and Ecklinville Seedling that, in spite of being highly recommended in the catalogues of trade growers as being profitable market sorts, should not be planted as market-town except by those residing close to market-town, where the fruit can be disposed of quickly. One of the finest, but certainly one of the worst Apples for market is Emperor Alexander. It is so soft that it will not stand the least pressure, and if kept a week or two, more often than not it becomes spotted and next to useless. Cox's Pomona is an extremely showy Apple, but the same remarks apply to it as to the preceding variety. Too many trees of it should not be planted, as if the fruit has to be sent to a salesman, the usual announcement is that it was mealy and only realised a poor price. Another large cooking Apple which used to be highly recommended for market, but is now seldom planted in any quantity on account of the time it takes to come to a bearing state, is Warner's King, known also as D. T. Fish and Nelson's Glory. Those who have trees old enough for bearing freely, find it necessary to get rid of the fruit as soon as possible after gathering, as it is liable to suddenly become discoloured and quite flavourless. It does better on a strong soil than on a light one; at any rate, the fruit keeps much longer. A variety called Cobbett's Fall, similar to Warner's King in size and which some gardeners think identical, although I do not, is on our light soil a better keeper, the fruit also in sunny aspects taking on a much more golden colour, the flavour

also being superior. I do not see why so many of these soft-bladed, uncertain keeping Apples need be planted, even where profit is the chief consideration, as there are others ripening at the same time and possessing those great qualifications, size and good appearance. Potta Seedling may be confidently planted in market orchards in any quantity, as no more prolific variety can be named; it is also large and handsome. This Apple is frequently met with in Norfolk, where it is much esteemed. Another good October Apple is Golden Spire, a tall conical fruit of bright straw-coloured appearance, extremely free and of excellent quality. This variety seldom disappoints. Tower of Glamis is a grand market Apple, being large, solid, very clear in the skin, and a constant bearer. For preceding these Lord Grosvenor cannot be beaten, as it will not only succeed in all soils and climates, which Lord Suffield will not do, but it keeps fairly well, and is worth careful packing for sending to a distance, as its bright clear colour takes the eye and ensures good prices in seasons when there is not a glut.

C. H.

PRUNING AND CLEANSING FRUIT TREES.

These important operations are often postponed until mid-winter, and in many instances until the forward condition of the trees will brook no further delay. Naturally enough the work has then to be done hurriedly, unless a large staff of hands is kept, if the collection of trees is an extensive one, as so many pressing matters in other departments demand attention after the turn of the year. The cleansing, too, of the trees can only be carried out then in an imperfect manner, or, at any rate, such drastic remedies cannot be used as would be the case when the trees are in a dormant condition. I am a great advocate for early pruning, and having a large collection of fruit trees under my charge, I find that there is a great gain in doing so, for many reasons; foremost of which in my case is that the labour can be the more conveniently spared in the autumn and early winter months than later on. Another advantage is the fact that the work can be done so much more expeditiously now, because, as a rule, the weather is milder, or if frost should prevail, it is not of such a severe character as that generally encountered after the turn of the year. An early start enables almost double the amount of work to be accomplished in one day compared with that done under adverse climatic conditions, owing to the assistants being able to work with much greater comfort. Under the old system that prevailed many years ago, such things as pruning and training fruit trees never used to be thought of until winter had wearied in, when all had to turn out to perform it under circumstances that, to say the least, occasioned great discomfort. Happily, this old state of things is not so prevalent now, and young men meet with more humane treatment in this respect at the present day.

Another gain in early pruning is that the wounds have ample time in which to dry and before they are liable to be affected by frost. Much harm is often caused—especially in the case of Apple trees—by pruning them during hard frosty weather, and many a case of canker might be traced to this cause alone. I commence pruning as soon as the leaves have fallen, and I invariably have the Apples, Pears, Plums, and Cherries out in the open ground done first. The bush fruits are then done next, as we are troubled but little with bird depredations in the way of "disbudding," and this enables the cleansing of the quarters to be carried out preparatory to cleansing the trees. The Morello Cherries on north walls are next taken in hand, then the trees on east and west walls, and then the Apricots. When these are finished, the Peach and Nectarine trees are attended to, as I find it quite unnecessary to wait until the orthodox time before pruning these, and then the whole of the pruning, training, nailing, and cleansing are generally

brought to a close by the end of the year. Many object to pruning and putting their Peach trees in order so early, and when such is the case they may be allowed to stand over, but with regard to the other kinds of fruit trees there is no valid objection to their being attended to as soon as possible after they have shed their leaves. In some districts I am fully aware that the pruning of bush fruits must be left until the spring owing to birds destroying the buds. With respect to the

CLEANSING OF THE TREES,

this matter has now become an important feature in fruit growing, as it is found to be the only means of combating the many insect foes which attack fruit trees. If the trees are well cleaned while in a dormant state a host of insects and their eggs are destroyed, besides ridding the trees of such parasites as lichen and moss, which affect trees more or less in low lying localities and on badly-drained soils. This cleansing also occasions a saving of labour in the long run, as it tends to lessen insect attacks by a gradual extermination. I attribute my freedom from insects to nothing else but persistency in following up this annual cleansing. Of course, it must not be understood that this does away with the necessity for spraying before and after Apples and Pears come into bloom, as such is not the case; but, if such a course of treatment is persisted in year after year, it naturally follows that the spring attack becomes less and less virulent. With regard to ways and means, I will depend on the kind of insecticide that find favour, and the manner of applying them. Concentrated and powerful solutions, or such as require to be largely diluted with water, are best applied with spraying pumps, which can now be bought cheaply. Under this heading comes the insecticide that Mr. Wright used to successfully and with such excellent results when he had charge of the fruit plantations at Gleston Court, near Ross, and for applying which special pump are now sold on account of its corrosive nature. A famous and well proved insecticide is Kilmright, and those who feel too timid about using the first mentioned need have no fear about this. A home made mixture or emulsion of petroleum and soft soap is not to be despised, and finally, there are the homely soap-suds, which do a vast amount of good, containing, as they do, a certain amount of soda in solution. The trees may be washed again and again with "suds" so long as they remain dormant. The best appliance is the garden engine, and for walls the suds should be forcibly driven into every hole and crevice, in addition to well washing every part of the tree. The petroleum emulsion is best applied through a sprayer to ensure the globules of oil being broken up and regularly diffused.

The first-named insecticide is made in the following manner: Take 1 lb. of caustic soda, 1 lb. of crude pitch, add 10 gallons of water, and boil until the ingredients are thoroughly dissolved. A copper holding from 50 to 100 gallons is best suited when large quantities are required. Care should be taken to wear leather gloves when using it, and choose calm weather, so that the spray will not blow into the face of the person applying it. Petroleum emulsion can be made as follows: Take 4 to 6 lbs. of soft soap and put into a copper holding 100 gallons of water. Boil until the soap is thoroughly dissolved, and then add 1 fluid oz. of petroleum to every gallon of water, and boil for five minutes. Then draw the fire and use the liquid in a lukewarm condition. Care should be taken not to fill the vessel, or whatever it may be boiled in, too full, on account of the paraffin catching fire should it boil over. Kilmright requires but little preparation, all that is needed being to dissolve 2 ozs. for every gallon of water required. Caustic soda and potash are excellent for cleansing Apples, Pears, Plums, and Cherries, and I believe Mr. Wright used to recommend it for Peach trees, but of that I am not quite sure. Kilmright, petroleum emulsion, and soap-suds may be used on all kinds of fruit trees without any distinction whatever. No uneasiness need be felt

in using any of these preparations so long as they are made and used according to the directions given above. The persons applying these insecticides should follow close on the heels of the pruners, weather permitting, and wash all wall fruit trees prior to training, tying, or nailing, as the case may be. Choose calm, open weather, and cease early enough in the afternoon to allow the trees to dry before nightfall.

A. W.

GOOD LATE PEARS.

It is gratifying to find that the number of really good late Pears is increasing, and that several of the newest varieties have hardy constitutions and will ripen satisfactorily, even in inclement seasons. With the list we now have I do not think anyone need be without a sufficient supply for home use from December to April. Undoubtedly the best late dessert Pear introduced for many years, all points considered, is President Barabé. This is usually at its best during March, and it should be mentioned that it ripened perfectly after the indifferent autumn of 1893 and the tropical one of 1894. The flavour is delicious, with an entire absence of grittiness in the centre, which mars so many of our late sorts. Le Lectier is another grand new variety from the Continent. That it will succeed in a strong and anything but warm soil I proved a few days since, having seen fine fruit of it at Hillside near here. The tree bears heavily and constantly on the Quince, the flavour being exceedingly rich and melting. From January to March is its usual season. Belle d'Abre, another recent introduction, should be included in the most select collections, as although in this district after a wet autumn scarcely perfect, yet in average seasons no fault can be found with its flavour, April being its season. The fruit is very large, of a greenish appearance outwardly, and in shape somewhat like Van Mons Leon Leclerc. I have not yet seen this Pear quoted in trade catalogues, but Mr. Newton has it in his garden at Hillside.

Beurré de Jonghe is a finely-flavoured Pear and a very heavy bearer. It is at its best about Christmas, but will keep well through January. It is a very slow grower and needs a sunny wall. Of older varieties, the best in my experience is Olivier de Serres, a variety ripening from February to March, a most delicious russety fruit, bearing well on the Quince and as a cordons. This Pear is good in this locality in any season. Josephine de Malines, a February to April Pear, always ripens well; fruit of medium size, of sweet and refreshing flavour. Its only drawback is its shyness in midland and northern gardens. In the south I found it to be a regular cropper. Beurré Rance is condemned by many, but it does well enough in this garden, fruit from a very old tree on the south end of a stable ripening up to dessert standard in most seasons. After cold, wet autumns, however, there is a slight grittiness about the core. Young trees of Beurré Rance need root-pruning to bring them to fertility. Yet another late season Pear in use in January is Nouvelle Fulvile. In this garden it always crops well on a cordon on an east wall, the fruit, somewhat rugged in appearance and of a bronzy red colour, always being of good quality. It is somewhat strange that this Pear should ripen better here than at Gunton, showing that a cool climate suits it. Some of our mid-season Pears also ripen better here than in the south.

The universally popular Pear Winter Nellie is usually classed with the late section, although perhaps no variety varies more in its time of ripening. With me fruit from trees growing in a sandy, porous soil is generally gone by Christ-

mas; whereas in some gardens where the soil is strong it will keep till the end of January. Crassane, a very old late season Pear, though requiring a sunny autumn to ripen it thoroughly, is well worth wall room where room is plentiful. In several Norfolk gardens having a warm soil it does remarkably well, the fruit during January being brisk and refreshing.

J. CRAWFORD.

Coddington Hall, Newark.

Apple The Queen.—In last week's issue "A. W." asks for information about this Apple. I do not think he will find it a very free cropper on orchard standards even in its locality. It is apparently most at home as a garden tree worked on the Paradise. My patience has been much tried with it as an espalier, a good healthy tree growing in the full sun and making annually medium-sized wood having only yielded some half dozen fruit in eight years. I missed summer-pruning once to see if it would form buds on the extreme points of the shoots in the same way as Irish Peach, Worcester Pearmain, and several others, but the experiment was a failure.—C. H.

Gooseberry Farmer's Profit.—In some gardens late Gooseberries are much esteemed. Some time ago Mr. Crook, of Forde Abbey, made some useful remarks on late Gooseberries, Warrington being quoted by him and several other writers as the latest hanging variety. This was my opinion until quite recently, when I was informed by a grower hailing from Great Yarmouth, that a large red variety, a size larger than the old Worcester, and named Farmer's Profit, was sown in the district for market. This variety he said hung on the bush very late in the season, so late, in fact, that the second week in October, and was of capital flavour. Probably it is a local sort not cultivated out of Norfolk, but if this is so it is a pity, as such a late dessert Gooseberry would be much valued in many gardens.—J. CRAWFORD.

Peach Amsden June.—In a recent issue Mr. Parker, of Goodwood, spoke of the above Peach as growing well when grown on open walls. Here, however, on a south wall it has done remarkably well for several years, the fruit swelling up to a good size and colouring most beautifully. Of course, the climate here is different from that of Goodwood, and my fruit does not ripen till, say, the middle of July, taking one season with another. Several years ago I was induced by some remarks of Mr. Wythes to plant Amsden June under glass, previously feeling afraid to do so on account of the indifferent results of trials of the other American varieties, Alexander and Waterlooo, although the latter does well enough with me in pots. The result has been capital crops each year with no bud-dropping or falling of the fruit during stoning. The only fault I have to find with Amsden June is that it will not keep so long as many sorts after it is ripe.—NOTES.

Apple Court Pendu Plat.—Some highly-coloured examples of this late-keeping dessert Apple were shown at Lincoln lately, one dish securing a place in the prize list. Court Pendu Plat is very seldom seen, which is rather surprising, considering that no other dessert Apple keeps so well, its flavour improving up to the very last. Another good trait in its character is that it blooms so late that even late frosts seldom catch it. A tree in our orchard in a sandy soil this autumn presented a grand picture, being loaded with fine fruit of a most intense red colour, a rather rare occurrence, for it must be confessed that it is somewhat shy in cropping. It presented a sandy soil, some of the finest fruit of which I have ever seen being exhibited at Ipswich a few years ago from trees near Bury St. Edmunds. Has any other reader anything to say about Court Pendu Plat?—J. C.

Renovating Vines.—In pruning the second Hamburgh house this winter, I shall be able to cut clean away the old rods that have done duty for the last thirteen years, leaving younger ones that have been gradually worked up from the

bottom wire to take their place, and although there is nothing new or novel about this plan of refurbishing a house it might, I think, be more often followed, and we should see less of long unspurred spurs standing out from 6 inches to 12 inches from the Vine or long bare stretches of rod quite destitute of spur or eye. So soon as there is a sign of the spurs getting away from the stem I start this work of refurbishing by running up a young cane from the lowest eye, this at the next pruning is taken back to one-third of its length, and a similar length of the old spurs taken off the old rod. Under these conditions, as will be noted, the cropping done the next season by respectively the old and young rods will be two-thirds and one-third, whilst after the next pruning when another third of the old spurs are removed, the proportions are exactly reversed and, as noted above, the next rod I do not suggest that this renovation is necessary when one has to deal with a dead Vine, soil, either natural or manured up, but where this is not the case and the soil has no staying power in it except what one can do by annual top dressings on a small scale, it is certain that there is a gradual annual weakening of the growth thrown from old spurs, and that a new lease of life from more points than one is afforded by this refurbishing. In connection with the spur pruning of Vines one sometimes hears the remark that they can be kept close at home for years by always cutting to the last eye. True, but that is just what we are not able to do with all varieties. I can cut Foster's Seedling and Lady Downe's hard back, and be sure of a bunch however small the bud, but it is not the case with Hamburgh, Alicante, Gros Colman and Cooper's Black. In their case it generally means cutting to a plump bud, and if this is done for several seasons an undue lengthening of the spur naturally follows.—E. BURRELL.

POT VINES.

For Vines that were started early in the last month will show signs of breaking. If the buds are not swelling evenly, as is sometimes the case, particularly after an autumn like the present, unloose the rods from the wires and bend them so as to check the flow of sap and throw it into dormant buds. Avoid any sudden change in the temperature. A too hot atmosphere should be guarded against as this would have the effect of causing excessive growth. Examine the fermenting material about the roots and see that they keep at a uniform temperature, for if allowed to decline the flow of sap will not be so active. There is much anxiety at this stage, as the least check would do serious mischief; when once an even break has been made the rods may be tied up in position. As growth proceeds, it will be necessary to give more water at the roots, but the soil should not be in any way soddened, or the young rootlets will be destroyed. Where the Vines are fruited round stakes, do not remove them from the trellis till the buds burst, for while they occupy that position they enjoy more light and a freer circulation of air; therefore, a stronger growth is obtained. Permanent Vines that are now pushing should be afforded air on all favourable occasions; in fact, where the requisite temperature can be maintained without over-heating the pipes, a little left on all night will be very beneficial. Where fermenting material is used to generate heat, this should be examined to prevent it becoming over-heated and giving off too much ammonia, which would have a serious effect on the young foliage if allowed to condense thereon. To guard against the possibility of any such mishap, a little top air on so that it may escape before the sun has any effect on the glass. Vines started in this way usually break more strongly than those which have only had the assistance of hot water to maintain the requisite heat. In some places where the roots are in outside borders, particular attention should be paid to keep them covered with fermenting material, but the latter should

be protected in some way to ward off heavy rain and snow. It is far best for Vines that are forced early to be planted inside, but as frequently happens succession houses have to be started that the fruit may be ripe in May. In order to secure a crop previous to destroying the Vines, it becomes necessary to afford some protection to the roots outside. To do this effectively, shatters ought to be provided to keep off the rain and snow, for when these have full play on the fermenting material there is a considerable waste of heat by their action, thus rendering a greater thickness necessary to be of any real service in warming the soil.

H. C. PRINSE.

TRELLIS GOOSEBERRIES.

THE season for the depredations of bullfinches will soon be at hand, and it cannot be too widely known that where they exist in considerable numbers the only sure remedy is to protect the bushes. "Leave the bushes unpruned until the buds are on the move," some tell us, but this only means more food for the birds, and they will certainly strip the bushes if they once start on them, nor does there seem to be anything that one can spray, sprinkle or dust on the wood so effectually as to act as a deterrent; certainly it might for a time, but the first heavy rain washes it off, or, in the case of things objectionable to the birds, destroys its efficiency. The principle of enclosing a goodly portion of small fruits inside a permanent fence of galvanised netting seems to be increasing in favour, and possibly has its good points where objection is not raised to the outlay, but strongly as one must object to the attentions of feathered friends at some seasons of the year there are certainly times when the presence of birds is welcome, and to exclude them entirely seems to me a mistake. From many points of view, and especially for the facility afforded for temporary protection from the bullfinch, I should like to call attention to the planting season to the value of the espalier or cordon system. If a double row of vines is placed in fairly close proximity, say about 3 feet apart, all that is necessary, so soon as the pruning is finished, is to drive a few rods down 6 inches from the outside of either row, letting the tops stand some 3 inches or 4 inches above the top trellis wire on which the Gooseberries are trained. Place on some shorter rods horizontally and throw a piece of fish netting over all, of sufficiently small mesh to prevent the birds getting through. It is sometimes suggested that this cordon system—restrictive, surely restrictive, as it is, for the trees will only average five leaders and they get close summer pinching and hard winter pruning—means a short life for them, but this is certainly not the case, for mine have been in fourteen years, they are in the best of health, give me every year a very heavy crop, and the loss has not been more than 3 per cent. To anyone starting their cultivation in this way, I would suggest obtaining a list of suitable varieties from any nurseryman who has made this a speciality. A fairly safe rule is to select strong, vigorous growers. Those with a tendency to make thin spindly wood are not so amenable to this particular treatment. As will be naturally inferred, the absence of shade, such as is afforded to the earth in the case of bushes, coupled with the very heavy crop necessitates a liberal mulching, and this will be found advisable to put on just after the fruit is set. With the exception of bullfinches in winter and blackbirds in summer, both of which are kept at bay by the fish netting, the only enemy is red spider. In dry seasons this is very troublesome, appearing in myriads just as the buds are bursting, and quickly making the latter look very sickly unless preventive measures are taken. These are, a thorough wetting with a mixture of a wine-glassful of parafin and a pile of soft soap about the size of a Walnut in a pail of hot water.

E. BURRELL.

Top-dressing Viner.—Some very fine Grapes were shown at Lincoln last week by Mr. Wipf, gardener at Hartshill Hall, near that city, the

varieties being Alicante and Muscat of Alexandria. On asking him how he treated his vines, he replied that the houses, which have an east aspect, are aired very early in the morning and the borders surfaced about twice or thrice during the growing season with night soil, a hose being then used to wash the strength down to the roots. Of course some ordinary soil would be placed over the night soil to prevent unsightliness. The borders, he added, were shallow, and had in them an abundance of rubble and charcoal, so that frequent copious waterings were necessary—in fact, were given about once a fortnight. Feeding with thin the leaves were never troubled with spider.—J. C.

Passiflora edulis.—I was very pleased to see a coloured plate of this Passion Flower in a recent issue, with a cultural note from the pen of my friend Mr. Roberts. I have seen it growing and fruiting in other places, but never saw it produce such a profusion of fruit anywhere as it does with him. Not only are heavy crops produced, but the flavour of the fruit is far before any that I have ever tasted before or since. Where tropical fruits are appreciated, the fruit of this Passion Flower would form a valuable addition to the dessert. When sending a note on the cultivation of this fruit some time since to THE GARDEN, I mentioned that the variety grown by Mr. Roberts was of his raising, and I was under the impression at the time that such was the case, but he corrected me afterwards and stated that it was an improved form of the ordinary variety. As I saw it growing, I considered it far superior to any other plant that I had seen of the same variety, and it certainly is a great improvement and deserving of extended cultivation.—A. W.

Mulching fruit trees.—We sometimes see autumn mulching of fruit trees spoken of as being harmful, which it doubtless is under certain conditions. In gardens where the soil is heavy and retentive, and the subsoil none too porous, mulching with manure at this period is no doubt harmful. On the other hand, where the soil is light and the subsoil open, mulching with rich farmyard manure is not only not harmful, but positively beneficial. In such soil, if the locality is a fair one, fruit trees invariably ripen their wood and shed their foliage at a comparatively early date, quite the opposite to those growing in clay soils and in late neighbourhoods. The strength of the manure placed round the trees, say in November or December, is washed down by winter rains and the roots have it to feed upon as soon as activity commences in spring. I have a light porous soil to deal with, the garden, moreover, being at a rather high elevation, and I find the above treatment suits both my wall and espalier Apple and Pear trees. Of course, mulching has reference only to trees in a bearing state. I do not believe in applying it to newly-planted trees, as a strong growth, tap roots and consequent unfruitfulness would be encouraged. To these newly-planted trees I merely give a mulch of leafy refuse to prevent undue evaporation during summer. With some of my choicest Pears I take away a little of the surface soil in November, giving an inch or so of fresh loam and artificial manure, firming this well, then laying on the manure.—A. GROWER.

Removing fruit from Fig trees.—Fig trees that are grown in the open-air, or even in perfectly cool houses, and do not therefore ripen their second crop of fruit, are often weakened by the latter being allowed to remain on the trees until autumn. Indeed, some people have an idea that these late formed fruits will ripen early next year if allowed to remain on. This, as all practical gardeners know, is not the case; as a rule, isolated fruits only maturing now and then, the majority falling to the ground as soon as the sap commences to rise in the spring. This is so even in the south of England, and after extra hot summers. Unless the trees are extra strong and need checking, all the figs formed too late in the season for ripening should be removed as soon as they are large enough to handle. This enables

the trees to increase their strength and form strong embryo fruits on the extremities of the current year's growth for swelling away next spring, as they can then appropriate the sap which otherwise would be used up by the second crop if allowed to remain on. This necessary removal of late formed fruit is much neglected by gardeners who force Figs both in pots and in permanent borders. Sometimes a second crop is taken from pot Figs, which will not materially harm the tree provided over cropping is avoided and the trees are liberally treated, but it is a long time to remain on for any length of time means waste of vitality to trees that can of all others ill afford it. My own opinion is that one crop, if a good one, is quite sufficient in one season from Figs in pots.—C. C. H.

DESSERT AND COOKING APPLES AT SHOWS.

DURING the last few weeks at Chrysanthemum shows I have noticed that several exhibitors put up cooking Apples in the dessert classes and vice versa. This would not so much matter if judges passed sentence on dishes out, but I regret to say that is not the case. I have seen Mr. Holden Noble placed before Cox's Orange the size of the former being the only merit. It may be urged such judging may only happen in a few cases, I admit such glaring defects may not be numerous, but others are. For instance, I have frequently seen Cellini pitted against Ribston, Golden Spire against Blenheim Orange, and the larger Lane's Prince Albert, Gascoigne's Scarlet, and Peasgood's Nonsuch against what may be termed the cream of the dessert varieties. I protest against such awards, as we do not want huge dessert Apples, and though every palate may not like the strictly dessert kinds, there is no need whatever to judge Apples by size or mere appearance. I think we should endeavour to keep the two classes as distinct as possible. Lately I saw Wellington in a successful dessert class. I admit Wellington is an excellent variety in its class, but it should not be admitted as dessert in any shape or form. I am aware judges have a difficulty with what may be termed both cooking and dessert kinds, but it is not advisable to admit such kinds into any competition. The same thing is noticeable with Pears, as one often sees varieties only fit for stewing in a class for dessert fruits. My contention is that quality should get first consideration, and size the least, as regards dessert fruits.—W. S.

I should like to call attention to the decision of the judges of dessert Apples at the exhibition of fruit at the National Chrysanthemum Society's show at the Royal Aquarium. If I am not mistaken, the winner of the first prize in the classes for cooking and dessert Apples staged Cox's Pippin and Lane's Orange in each. I think that a collection of six dishes of dessert Apples fit for any Apple classed as a cooking dish should be disqualified. I take up this question, as I think it would be a great help to intending exhibitors to know what to exhibit, as they are now puzzled as to the sorts, seeing that judges hold so many different opinions. Several exhibitors (myself included) could have staged excellent dishes of both sorts in question, but did not think they would be admissible as dessert fruit.—B. M.

At a recent show in the north of England an exhibitor in a class for six kinds of dessert fruit to consist of two varieties of Grapes, two varieties of Pears, and two varieties of Apples, showed Emperor Alexander as one of his dishes, and, to his surprise, the judges disqualified him for so doing, as they seemed to think it a cooking variety only. It is classed in all the principal nurserymen's catalogues, and rightly too, as suited for either cooking or dessert.—J. RIDDELL.

* * * Emperor Alexander is purely a kitchen Apple, and when there are so many valuable dessert Apples now in season, what need is there to run the risk of being disqualified by showing a

variety that has only colour and size to recommend it?—ED.

NOTES OF THE WEEK.

Solanum integrifolium.—Quite a large group of plants in 5-inch pots was noted recently at Kew carrying their curious, though brilliant coloured fruits. The latter are corrugated and not unlike a medium-sized Tomato of the Old Bed type.

Agave dasylirioidea.—This curious species has been flowering at Kew in the succulent house. The flowers are of a greenish shade, closely arranged on a long spike. It is not difficult to trace its whereabouts owing to the peculiar odour of the flowers.

Crocus Imperati.—The first flower of this winter gem appeared on November 26. I can only count on its flowers towards the end of December, but I never remember seeing a blossom in November before. Is it not unusually early?—G. PIM, Montstoun, Dublin.

Saxifraga leucantha.—For the sake of the variety it affords, this plant is worth growing in the greenhouse in company with *S. splendens* and *S. Betheli*, and though the flowers are by no means so showy as those of the two named, well grown examples are very attractive.

Cattleya aurea.—I am sending you a bloom of Cattleya aurea again this year from the plant which flowered last season, the flower of which gave a description in THE GARDEN, December 5, 1895. It has not improved to any appreciable extent, neither has it gone back. This year the spike bore three blooms.—HUGH JAMES HUNTER, Edinburgh.

Roman Hyacinth.—These are among the most welcome of pure white fragrant flowers for the greenhouse just now, and most acceptable for mingling with small pots of Maiden-hair Ferns in the drawing-room. Indeed, the frail spikes characteristic of the plant are far better suited for cutting than are the much harder tufted species employed in bedding and the like.

Leucodendron argenteum (the Silver Tree).—The silken silvery leaves of this beautiful plant are always an attraction among cool greenhouse subjects, and for its exceptional appearance it is well worth greater attention, particularly in those gardens where the large conservatory contains a good piece of rockwork, for here the plant would always show to good advantage.

Streptocarpus.—There seems to be a never-ending profusion to the flowers of these plants, and though only accommodated in the ordinary greenhouse, they flower continuously for months in succession. This is the case even with pot plants, while at Kew, in the succulent house, planted as a margin, these Streptocarpi have proved among the most profuse flowering things that are grown.

Tecoma Smithii.—This showy plant promises well as a useful plant for autumn flowering. Some compact and well-grown plants have been producing their heads of richly-coloured blossoms for a long time, the result of seeds that were sown quite early in the year. When it is remembered that in six months or little more the plants attain to flowering size and are only 2 feet high, it will be seen how serviceable such are likely to become in an ordinary greenhouse, while the length of time the plants continue in bloom is also worthy of special notice.

Marguerite Carnations.—For continued flowering in the greenhouse at this season, these are by no means to be despised, as apart from the great variety of colour which they provide, many are deliciously fragrant and certainly make a pleasing association with other flowers. One noticeable feature is that the large majority of them possess a certain perpetual habit of flowering, so that by regulating the sowing of the seed a batch may always be secured for the winter months, a time when their heavily fringed petals are not so much objected to.

TREES AND SHRUBS.

THE GREAT-LEAVED VINE OF JAPAN.

(VITIS COIGNETIA.)

ALMOST all the species of the genus *Vitis*, to which *Ampelopsis* is now joined, are very beautiful leafy climbers, but, so far as I know, the leaves of none surpass in size and colouring

of any extensive demand for plants of it, seem to have militated against its general distribution. It appears to have been also grown in the Jardin des Plantes at Paris, and became more popular after Mme. Coignet imported or brought over a supply of Japanese ripened seeds. Mr. J. H. Veitch and Mr. W. Goldring both saw the plant in its native country, and Mr. Veitch, in company with Professor Sargent, in the month of September, 1892, gathered

Chili and Peru. The Earl of Annesley was, doubtless, the first to introduce into and cultivate this noble Vine in Ireland, having obtained it from Mr. Waterer twenty years or more ago. The two finest plants known to me are that at Castlewellan, Co. Down, and a remarkable example on the garden wall at Narrowwater, near Newry, this as a young plant having been given by Lord Annesley to his neighbour, the late Major Hall. In these



The Japanese Vine (*Vitis Coignetiae*) in the gardens at Castlewellan, Co. Down. From a photograph sent by Lord Annesley.

those of Mme. Coignet's Vine from Japan. For many years past visitors to Mr. Waterer's nursery at Knap Hill have noticed and admired this Vine as seen luxuriantly clambering over some Scotch Firs pretty much as it scrambles and dangles from coniferous and other trees in the woods or forests of Japan. How or when this rare Vine came to Mr. Waterer does not appear to be known, and the practical difficulties in its propagation, or it may be the lack

seed of this Vine in the thick, low woods of the northern island of Hokkaido, where for days together in the autumn there is almost ceaseless rain.

The illustration gives some idea of the luxuriant character of this Vine as grown in Northern Ireland, where the climate seems pre-eminently fitted for the healthy growth and vigour of nearly all the harder plants of Japan as well as those of New Zealand and of the mountains of

two gardens this Vine has been cultivated from different points of view, as it were. For example, at Castlewellan one of the main objects was to get highly coloured foliage in a moist climate rather than mere size of leafage, and when Mr. F. Moore, of Glasnevin, and myself accompanied Mr. J. H. Veitch on a little garden tour in Northern Ireland last September, we were all charmed by the vivid colouring of the Castlewellan p'ant, as we were by the

luxuriant growth and size of the leaves on the specimen at Narrowwater. Mr. Morrison, at the latter place, who planted the specimen last autumn, told me that he treated very liberally the little stranger when it arrived, giving it a good supply of deer-park leam and some slight additional stimulus in the shape of special Vine manure. As a result, perhaps, the individual leaves of the Narrowwater plant are finer than those seen elsewhere, though perhaps not so vivid in colouring as those dried examples brought home by Messrs. Veitch, Goldring and other travellers in Japan. The largest leaf I actually measured from the plant last alluded to was 11 inches long by 11 inches in extreme breadth, but this year there appeared to be leaves even of greater dimensions. The variation in colour, as shown by the foliage in autumn, is very rich and extensive. The green turns to yellow, buff, orange and purple, the purple becoming crimson before the leaves ultimately fall away, and it is a further charm that no two leaves colour in the same manner. As the coloured leaves are seen between the eye and the sunlight, their brilliancy of colour, resembling that of old stained glass, is most effective. The under surfaces of all the leaves, however, agree in being of a deep rich buff or wash-leather colour.

The true *Vitis Coignetiae* is undoubtedly a plant to be desired by all possessing space for its full development, but much difficulty was experienced in increasing it until of late years, when a supply of Japanese seed was obtained. Mr. Morrison succeeded in layering some of the lower branches, and this, if a slow, is a sure method to adopt whenever practicable. Another way is to graft scions in spring on to stem or root cuttings of the common Grape Vine, burying them in the soil so that the scions eventually root, as is the case with *Clematis*. Even two stem cuttings of *Vitis Coignetiae* spliced together and buried under suitable conditions of heat and moisture would doubtless root more freely than single cuttings, as is now known to be the case with many other plants. Of course, if the imported seed comes true, large stocks may soon be obtained, but there are some doubts as to the seed always yielding the exact counterpart of the plant as first grown in England by Mr. Waterer, and as now established at Castlewellan, Narrowwater, and elsewhere. At the Jardin Botanique d'Accrimation at Antibes, the director, M. Naudin, once showed me a Japanese Vine in fruit under the name of *V. rugosa* which closely resembled *V. Coignetiae*, except that it had not the rich buff tomentum on the back of its leaves, and a seedling from that Vine which I raised from fruit M. Naudin gave me, although resembling very closely in size and colour of leaf *V. Coignetiae*, is not precisely the same thing. Another Vine called *V. amurensis* is similar to M. Naudin's *V. rugosa*, and this last has long been cultivated in the vicarage garden at Bitton, and is a very beautiful climber for pole or pergola, or even on a gable or wall. I have heard great things of a Vine I have never seen, viz., *Vitis californica*, which is said to be one of the most luxuriant in habit and to produce enormous leaves. Any information about it from American readers would be welcome. The only drawback about *Vitis Coignetiae* is in its being deciduous, but even so from the first bursting of its grey and rose-flushed buds in April until the fall of its leaves in November it is an ever-changing and beautiful thing.

F. W. B.

gated forms of plants of which the wild forms are prettier. For instance, a common little plant is *Euonymus radicans variegatus*, but we rarely see a trace of the green plant from which it sprang, which is a prettier one. It is a close, green creeping shrub, excellent for walls in exposed places or for banks or rocks, bearing berries like those which make the native Spindly Tree so attractive. When these are borne freely, the contrast between the dark green foliage and the fruit is pretty.

CLIMBING, TWINING, AND WALL PLANTS.

THERE is scarcely any limit to the different uses that plants of a climbing or rambling habit may be put to, for many of them are extremely beautiful when employed for the draping of arbours, pergolas, or even living trees, while for hiding unsightly fences or clothing sloping banks, the more vigorous kinds are well adapted. For draping buildings or furnishing walls there is a great variety of subjects, either quite hardy or sufficiently tender to need the protection of a wall in order to pass through an ordinary winter without much injury. The majority of those enumerated below are hardy enough to succeed as wall plants in any part of England, while a few especially indicated are adapted only for particularly mild districts. The list herein given is a pretty extensive one, and when the vast number of varieties of Roses, *Clematis*, *Loniceras*, &c., is also taken into consideration it is evident that there is a wide choice of subjects open to the planter. It is, however, a very difficult matter to get some of them in vigorous plants that will soon make a goodly show, for though kept in stock by several nurseries, the plants supplied are in some cases usually so small that it is some time before they reach an effective size.

Abutilon floribunda Cianthus puniceus, only trifolia for especially favoured Abutilon vitifolium and others in warm dis-Connollys trieste Cotoneasters Crataegus Pyracantha volubilis Cydonia japonica in var. Alumaria cirsoides Lecubarria barbata Akebia quinata Desfontainesia spinosa Aloysia citriodora, if in Discaria longispina jured by the winter Duvana dependens soon recover Ecremocarpus scaber Apioe tuberosa Edwardia microphylla Aristolochia Siphon tormentosa Embothrium coccineum, only in the south and west of England and Ireland Berberis stenophylla Berberidopsis corallina, Ercilia (Bridgesia) sp. requires a sheltered spot on a wall Escallonia in var. Berchemia volubilis Erythrina pinnatifolia Bignonia capreolata grandiflora radicans Euonymus purga Billardiera longiflora, Ficus stipulata (reponens), a warm wall in full sun Escallonia in var. Buddleia Colvillei globosa Calystegia dahurica Friesia californica Camellias in var. Garrisia in var. Camellia dependens needs a little peat and a somewhat tender sheltered spot on a Grevillea rosmarinifolia wall sulphurea Carpenteria californica Haberlitzia tamnoidea Coptopteryx mastacanthus Hedera in var. thus, for a sunny wall Illicium floridanum Ceanothus in var. religiosum Calustris scandens Indigofera decora alba articulatus Jasminums in var. Chimonanthus fragrans Kaduera japonica Choisya ternata Kerria japonica Cocculus carolinus j. flore-pleno Thunbergi j. variegata

Lapageria rosea, needs a Punica granatum (Pome-peaty, well-drained granite) soil, fairly moist, and is at best half hardy g. album plenum Lardizabal's beternata g. nanum Leptospermum scoparium Rhus toxicodendron radicans Loniceras in var. Ribes speciosum Lophospermum in var. Roses in great war. Rubus austalis Lychnis barbata deliciosa and others Magnolia in var. Schizandra chinensis Mandevilla suaveolens, Semeli (*Buscus*) androgyne, for mild districts

Maurandya Barclayana, bloom throughout the summer Solanum crispum jasminoides, more tender than the preceding Maximowiczia sinensis Schizophragma hydrangeoides Medicago arborea Monnieria canadense Smilax in var.

Mitraria coccinea, needs a Sollya heterophylla and mixture of peat or leaf linearis, for south and mould with the ordinary soil, and a Ireland sheltered spot Stauntonia hexaphylla latifolia

Mulinbeckia compacta Stauria pseudo-Camelia Thunbergia alata, does well during the summer

Pteropis graca Physianthus albens, Tropeolum in var. somewhat tender Piper Fitolakdarsa Passiflora in var. Pitopsporus Tobira crassifolium Plagiantha Lyalli Pueraea Thunbergiana T.

FLOWER GARDEN.

THE COLLEGE GARDENS, DUBLIN.

The Botanic Gardens of Trinity College, Dublin, are situated about a mile from the college itself, and occupy a plot of about 8 acres along the Blackrock Road, near to Ball's Bridge. Dublin has long been famous for its orchards and gardens, as testified by a note in the city annals, which states that "in A.D. 989 a tribute of 1 ounce of pure gold was paid by the Norsemen or Danes to the King of Ireland for every capital messuage and garden in the city." The county of Dublin is even to-day famous for its Apples and Strawberries, and the city is fortunate in having two botanic gardens and several important public squares, including St. Stephen's Green and the noble Phoenix Park, with its well-kept and attractive "People's Gardens." The extensive and beautiful botanic gardens at Glasnevin, Dublin, are too well known to need any further comment here, but, in passing, one may remark that they are now under Government supervision and support, although really established about a century ago under the auspices of the Royal Dublin Society. The College Gardens, on the other hand—as is implied in the name—were founded, and are sustained, mainly for teaching purposes by the University of Dublin. The present gardens at Ball's Bridge represent the third botanic or physic garden in the possession of the college. The first garden existed within the precincts of the college itself, occupying the ground between the present library and Nassau Street, and it appears to have been done away with about 1711, when a new anatomy house was erected on that site. A second garden was established at Harold's Cross under the auspices of the then professor of botany, Dr. Hill, who is referred

to in the college accounts as receiving £618 19s. 8d. as compensation for the "botany garden" in 1803, whence we may infer that the garden was to a great extent of his own finding. The third and present-day botanic garden at Ball's Bridge was made on a site leased from the Pembroke estate by the college in July, 1800, for 175 years at a rent of fifteen guineas per acre. The first curator was James Townshend Mackay, who a year or two previous to the last named date had been engaged as "collector to the professor of botany," and to whose researches in this and other capacities we are indebted for the "Flora Hibernica," published in 1836.

Again, we find that the existing College Garden is itself of a three-fold growth or development. The first garden consisted of about three Irish acres, and was walled in all

running past the gates. The gardens or grounds themselves may be said to transgress all the rules of the landscape gardener's art, being as flat or level as a billiard table, nearly all the walks being straight and at right angles to each other. All this, notwithstanding, these gardens possess a quiet, Old World charm at all seasons, more especially in spring when there is a bird song accompaniment to the flowers and newly opening leaves. They have the *rus in urbe* tone, and the songsters that seem of right to belong to College Gardens everywhere, though, unlike those of Cambridge and of Oxford, the nightingale never comes so far west, and so is never heard herein.

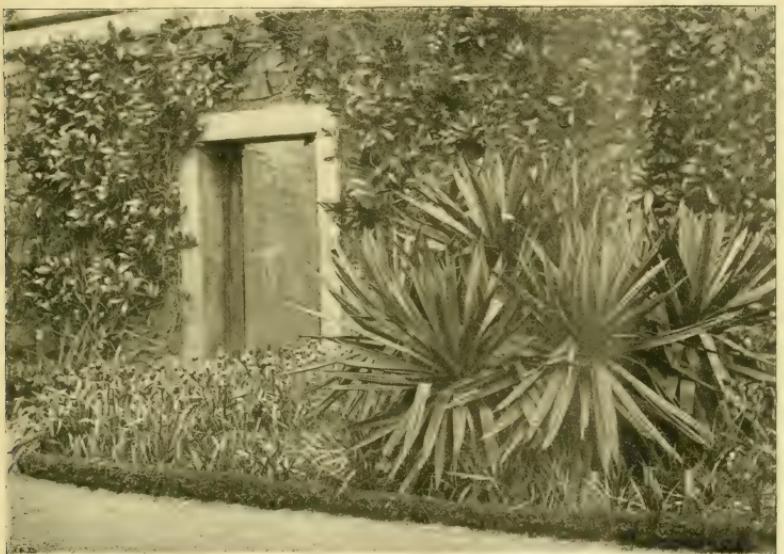
Close along one side of the garden lies the site of the old foundry and fitting sheds of the Hammersmith works, wherein the late Mr. W. Turner cast and fitted the cast iron framework

Bain, who succeeded Mackay as curator and long maintained the gardes at a high level; and, to come down to our own time, Mr. F. W. Moore was curator here until he succeeded his father at Glasnevin in 1879.

The garden is well stocked with trees and shrubs of various kinds. There is a tradition that the dwarf, but characteristic Cedar of Lebanon now growing here was thirty years old when removed from a neighbouring garden in 1807, when the oldest portion of the grounds was planted. Close to this Cedar stands a good and healthy specimen of the Italian Stone Pine (*P. Pinna*), and this is well shown in one of our illustrations. The tallest and most graceful tree in the old garden is the American Elm (*Ulmus americana*), its trunk densely feathered with weeping branchlets, as is peculiar to this species. There are very good examples of *Ulmus montana pendula* beside the pond, a large purple-leaved Beech and a fine Manna Ash (*Fraxinus Ormea*). The true Service Tree (*Pyrus (Sorbus) domestica*), *Pyrus terminalis*, *P. intermedia* and others fruit freely here, as do various rare Thorn trees, including a noble tree-like specimen of *Crataegus tanacetifolia*. *Arbutus Andromache* and *A. hybrida* are represented by fine trees, and one could not readily find larger specimens of *Garrya elliptica* and of the Japan Wax tree (*Ligustrum lucidum*). Over one of the gates there is a fine *Wistaria*, planted in 1832, that forms a pretty picture when in bloom, and there are fine trees of *Diospyros Lotus* and *Magnolia acuminata*. *Colletia horrida* and *C. bicoloris* are each 12 feet high on the walls, these having been planted about sixty years ago. One of the most remarkable of trees lately introduced to the garden is the Himalaya Paper Birch (*Betula Bhojpatria*), with its waxy white trunk and branches. Seeds of this rarity were generously presented by Sir Joseph Hooker shortly

before he retired from Kew, and from these the two healthy little trees now in the gardens were raised.

The soil of the garden is light sandy alluvial earth of great depth, resting on old river beds, or creeks that at one time extended this far from the sea-shore. Aided by a deep, warm soil, good shelter, and proximity to the sea, many plants usually only half hardy here withstand the open-air climate all the year round and for many years consecutively. *Yuccas*, *Cordylines*, New Zealand Flax (*Phormium*), the great-leaved *Gunnera manicata*, and *Chamomile Fortunei* are all represented by healthy specimens, and the *Yuccas* especially flower very freely. The deep, warm sandy loam also lends itself to the cultivation of hardy, herbaceous and bulbous plants of all kinds, Irises, Lilies, and more especially *Narcissi* being thoroughly at home in



A garden door with Magnolia on wall—Yuccas on Daffodil border in College Gardens, Dublin.

round in 1807, when also the planting was begun. In the year 1832 a plot of two acres or more was added along the Blackrock Road, and the present entrance gates erected, together with a strong iron railing. Again in 1848, a further shelter belt or narrow strip of land extending the full length of the garden was added along what was then called "Old Watery Lane," but which is now the Lansdowne Road. These three plots of different dates of planting each contain trees planted at the time, so that an index of growth of some interest is thus afforded as throwing a side light on the soil and the climate since each portion of the garden was annexed.

At the present time the College Gardens really constitute a sort of semi-private town square, being surrounded by roads and houses on all sides, with a modern electrical tramway

of the great Palm house now so well known at Kew Gardens. How and why such a structure could only be made in Ireland at the date of its erection may be left to modern students of political economy, but we may at any rate record the fact. Under Mackay's management the College Gardens soon became well known, and early in the present century Sir W. Hooker, of Kew, Lindley, Paxton, and the McNabs, Veitch, Loudon and many others made it a point of visiting them. Again, many of the young men originally employed here under Mackay became famous in after life. Of such we may name the late Dr. David Moore, of Glasnevin; Fraser, the landscape gardener; Balfe, long the able secretary of the Dublin Horticultural Society; Mr. Charles Moore, who has only recently retired from the directorship of the Sydney Botanic Gardens; Mr. John

this garden. The illustrations herewith were all made from photographs made by Mr. John McLeish, of Straffan.

COMBINATIONS WITH BULBS.

The formal beds of Tulips and Hyacinths in rows at equal distances from each other give a very poor idea of the beauty that may be got out of bulbs. In fact, except as blazes of colour for a very short time, such displays are the reverse of beautiful. In my opinion the best way of growing bulbs is to intersperse them freely between the usual plants in herbaceous borders. You may get of the Dutch florists 1000 mixed single early Tulips for a sovereign, carriage paid. If these are planted out freely, simply by chance, among the usual perennials, you get a remarkable display of brilliant colour, in all sorts of varieties, and the effect is toned down by the young foliage of the summer and autumn plants, such as Ditylums, Delphiniums, Aster, Pyrethrums, Aster, and so on. Not that I recommend early Tulips only being massed about in this way, for they are only in flower for a short time. The bulb display should begin with winter Aconites, Snowdrops, Scillas (particularly S. bifolia), Chionodoxas, Crocuses, Daffodils, following on with early Tulips, the succession ending with the tall old Tulips, either in self colours or striped. The whole herbaceous border should be covered between the other plants with big clumps of all these bulbs, never to be dug up or meddled with, manure or dressings being only put on the top as needed.

Another good way of growing bulbs is to plant them under Roses (particularly unpruned ones), surfacing the ground with Forget-me-nots and Iceland Poppies. Of course such things must not be buried in the masses of rank manure that so often turn Rose beds into stinking manure heaps for so many months. Roses really do not require such quantities of nutriment, and what they do require can be given them in the shape of cleanly artificial manure. With the more delicate bulbs, such as Snowdrops, Scilla bifolia (one of the most delightful of spring plants) and Chionodoxas, a surfacing of mossy Saxifrages is very appropriate, and these and other small bulbs also look beautiful among rock plants. There also the bulb display can end with the Colchicums, which require support to their flowers. Two large beds of single and double Peonies have been a great success here. The ground is surfaced with Violas, and below the latter are massed with bulbs in the varieties named above. From February to June there is a constant succession of beautiful colour, ending in the Peonies. Then follow on in the same bed Lilies, such as testaceum, Martagon, and dalmaticum, the floral circle for the year ending with Lilium tigrinum splendens. I tried a backing of hardy Chrysanthemums to these beds, but they required a change of soil and were a failure on the let-alone principle. As the Peonies grew big also the Violas got rather smothered. A splendid bed is made by growing Tulipa fulgens, or any of the grand late kinds, in combination with Anemones japonica H. Jobert, a far finer plant than the miserable "improvements" upon it lately sold at high prices. The later Tulips come up well through the Lent Lilies in two of my beds, which are also plentifully interspersed with the Lilies named above, as well as with auratum, speciosum and other kinds. L. speciosum does excellently, coming up through a mass of Lilies of the Valley. I have tried Crown Imperials

in combination with the Madonna Lily, but the bed was a failure, as the stems, &c., of the former died off at the wrong time. Groups of Anemone pennina look beautiful among shrubs, and, of course, under trees. A mixture of Lilium candidum, Tulipa and Lilium tigrinum splendens gives a long succession of bloom. The first thing for bulb growers to discard is the miserable old plan of digging up the roots every year, drying them and putting them away. The next idea to discard is that bulbs are costly things, for if they are bought in quantity they are exceedingly cheap. No doubt a leading florist will charge you £1. for a Hyacinth of a choice variety, but that is a fancy price, and the prim Hyacinth is a tasteless plant for the garden till it has run back to its natural size and shape by being let alone out of doors for a few years. A bed of Hyacinths such as we see in the parks is really hideous, though the colour at a distance may be pleasing. The prim spires, the comparative absence of foliage, and the regular pips of blossom must be offensive to anyone with a real love of flowers to whom such artificial creations of the florist appear simply as ugly abortions. Our own wild Hyacinth is a far more beautiful and graceful plant than the best show Hyacinth. Bulbs as showing the first efforts of returning spring after our tedious winters should be grown as far as possible in a natural and graceful way. The next thing to abolish is the growth of masses of bulbs of one sort or colour in bare, formal beds and in lines and rings. This is the proper answer to your correspondent "W. T." (page 424), who wants to know how to "decorate" beds of bulbs.—J. I. R.

"W. T." Bishop-teignator, inquires at page 424 for suitable annuals or perennials to flower as a succession to bulbous plants, and rightly concludes that the ground may be utilized without injury to the bulbs. There is quite a host of plants suitable for the purpose named, which virtually is nothing more nor less than a mixed arrangement of herbaceous and bulbous plants, of which doubtless there are numbers in existence. Perhaps the greatest gain of all to such an arrangement lies in the fact that such things as Narcissus, by their early flowering, would seem fitted to associate with many of the best hardy perennials. Large numbers of the latter are only beginning to move when the Narcissi are in full flower. Take, for instance, the Pentstemons, with their bright and varied colours, which make so fine a display during the summer months, and by raising such things from seed or cuttings, the bed they would hereafter occupy in spring be quite unfettered and the bulbs allowed full sway. I mention these first because it not infrequently happens that such beds are better suited to plants that are either easily raised from seed or cuttings, or easily replaced from year to year. The Tufted Pansies of course form a most important group, and may be planted in autumn at the same moment as the bulbs, or be allowed to stand over till spring. The first named would, perhaps, be best, because this arrangement would also provide a certain amount of greenery during winter, besides giving a much earlier bloom, while the spring-planted ones would have a value of their own in yielding a succession of their beautiful and varied flowers. Another bed may be devoted to the best German Irises in conjunction with bulbs; another may be used for Aster Amellus varieties, or Aster acaulis or any of the cordifolius section, together with the pretty rose-coloured A. levigatus. All these Starworts are easily established, and, though it is equally important, they do not sprawl away in a weedy manner as some kinds do, which is objectionable for more reasons than one. Carnations would also make a fine succession to bulbous flowers, and are thus frequently employed. Another good mixture may be had by planting Galtonia candicans, also Tigridias,

the latter to be planted in February. The white varieties of Campanula persicifolia are very pleasant, as also Gaillardia hybrida grandiflora, which provides such a rich and varied assortment of flowers for so long a time. The beautiful hybrid Columbines would be exquisite in such a place, and invaluable for cut flowers also; and by raising the seedlings early in the year in the open on a reserve border, they could be planted with nice balls of earth quite early in September without in any way interfering with the bulbs. A succession of Lillies may also be fitted in, so as to give a succession of bloom, with such things as Aubrietia, the dwarf alpine Phloxes to form a carpet for the whole. The Iceland Poppies are very pretty, and easily obtained, while Heuchera sancta would also be most suitable. To these may be added Geum coccineum pl., G. minutum and G. Heldreichii, all delightful in flower, especially when in flower. As dwarf forget-me-nots, such things as Silene alpestris, S. maritima plena, Erythronium macroracma, (E. acutilis) and others are worth naming. These are some of the better suited among hardy perennials for the purpose named; numbers of the boldest and showiest of perennials must for such a position be omitted, by reason of their great vigour or deep-rooting character. Of annuals there are many, such as Zinnias, Stocks, Aster, Candytuft, Linums, Shirley and other Poppies, Nasturtium, Petunias, Mignonette, Phlox Drummondii, Verbenas, Nicotiana affinis and many more; while at least one bed may be devoted to the tuberous Begonia, which invariably keeps up a good display into the autumn months. It would, perhaps, be advisable in such arrangements that the bulbs be planted somewhat deeply, so as to avoid any interference when the other things are being planted on the surface; though by marking well the positions of the clumps of bulbs it would be quite easy to avoid contact with them when planting the perennials, the whole of which may remain at least three or four years with advantage if this is needful.—E. JENKINS.

In answer to the query that is found on page 424, I may mention that short notes on the above subject have appeared several times throughout the year in connection with flower garden work, but if your correspondent has not the back numbers of his GARDEN to hand, it may not be out of place to refer to the question at some length, as it is a matter of interest to all who grow bulbs rather largely, whether in single beds or in patches of large borders in connection with other things. The list of plants suitable for the work may be divided into two classes, dwarf bedding plants propagated either from seed or cuttings and planted out, and annuals that may be sown on the ground. Of the last named, which, as they would be sown some time towards the end of April, might be used in the case of bulbs whose foliage is not lasting, four serviceable things are Mignonette, the new dwarf Toadflax (*Linaria reticulata*), Portulacas, and the miniature French Marigold. The soil can be lightly pricked up with the fork and broken down fine, and if slugs are likely to be troublesome, a thin sprinkling of coal ashes can be put on: this will quickly be hidden when the plants begin to grow. Of bedding plants suitable for the purpose I have used Lobelia pumila, Petunia nana compacta, Phlox Drummondii (pegged), Gazania splendens, the variegated Mesembryanthemum, and Cannell's dwarf Ageratum. With respect to the hardy plants available, the list is a long one, especially if it is simply a question of carpeting the ground and foliage irrespective of flower as what is chiefly required. I should place the Tufted Pansies (the *Violetta* type) quite in the front rank as hardy carpet plants. They practically cover the ground with their foliage, and flower continuously all through spring and summer, and early autumn. *Violetta* is about the best of the section, but *Lilian* (lilac) and *Orange Queen* are also good and will give a variety in colour. They can be propagated by cuttings towards the latter end of July or by division in autumn, and the young plants in either case can be put out on the bulb beds towards the end of

October, or failing that, at any later time when the weather will permit. This section of Pansies keeps its foliage green and healthy all through the winter, and once planted may remain for two or three seasons without getting bare or ragged. All the varieties of *Phlox setacea* are useful for the purpose. True, they flower somewhat earlier than the time named by your correspondent, but they keep a bright carpet of foliage all through the summer, and this year doubtless owing to the heavy rains, we have had a display of bloom through the latter part of September and October. They may be planted at any time throughout the year when the ground is available. Other dwarf spring-flowering perennials that might be tried are the varieties of *Arabis* and *Aubrietas*. An occasional trial could be given to one or two of the *Saxifragas* of the umbrosa type, and *Gentiana acaulis*, not planted too thickly, but dotted sparingly over the surface of the bed, allowing a free passage for the bulbs. I am very fond of the old double *Chamomile* as a carpet plant, and it is difficult to find anything better for tall plants, as *Montbretias* and other things of similar habit, especially given a dry situation and a light soil. Once planted it will stand for years, and all the attention required is an annual shearing over after the bloom is at an end. If it gets weedy, cleaning is sometimes difficult, and then it is advisable to lift it, pull it to pieces and replant.

Turning to a few things grown for their foliage or whose flowers are so insignificant or short-lived as to render them of secondary importance, many of the hardy *Liliums*, as *acris* and its varieties, *glaucom* and *Lydium*, also *Ajuga reptans* and *reptans variegata* can be used for small beds or patches, and for these on a larger scale *Antennaria* *tomentosa* and *Veronica* *inclusa*. The above list will be noted, is restricted to either permanent plants or those annuals which will last out until the end of the season. Spring flowering annuals are also largely used in connection with bulbs, and a very pretty effect is produced if due regard is paid to arrangements affecting the contrast in colours. The varieties of *Mrysotis* and *Silene*, also *Limnanthes Douglasii*, are most in favour for this purpose.—E. BURRELL.

Jadoc fibre and Lilies.—This material is good for potting Lillies in. By way of experiment I potted a good bulb of *Lilium speciosum* Melpomene in a small pot last season, using Jadoc entirely. The bulb threw up a strong stem and flowered beautifully. On examining the bulb this week I found it very clean and firm and with plenty of new basal roots, also with six offsets, one as large as a Walnut. I shall try *L. auratum* in it and see if this refractory kind will take as kindly to it as *L. speciosum* evidently does. I am also trying it for a bed of *Montbretias*, which seem to prefer something light to grow in.—T. J. WEAKER, Crouch End.

Planting Spanish Irises.—Having a very great demand for cut flowers during the London season, I have purchased a lot of Spanish Iris bulbs with the intention of keeping them out of the ground until, at any rate, February with the hope of securing a good batch of flower-spikes in July. I know it is generally advised not to delay planting the bulbs after November, but as I last year proved that various bulbous subjects could be kept plump and good unplanted till the spring, I am induced to give the Iris a trial. They are excitable things, more so than the English section, and no doubt to be successful in the experiment, a perfectly cool as well as a dry place will be necessary. If, however, I find growth commencing, they will be planted at once. Has any reader ever tried delaying planting the Spanish Iris till spring, and with what result?—C. C. H.

A plea for annuals.—In the majority of gardens room might easily be found for some of the most enduring annuals, especially where the collection of hardy perennials alike in quality and quantity is not of the best. The experience of the last few years leads to the conclusion that they cannot be too strongly recommended. They

want to be sown early, but there are few places that have not a bit of glass, and if the seed is put thinly into boxes and placed on the shelf of a greenhouse or viney it will germinate quickly, and the seedlings may be pricked out early into other boxes or a frame, if the latter is available. Let me recommend a nod to be made of *Carex* *Grisea*, *Variegata*, *Maritima*, *Pentstemon gloxinoides*, the annual *Gaillardia*, and *Princess Alice Stock*, that never fail to give satisfaction, and, with the exception of the *Pentstemon*, the flowers of which drop rather quickly, all first rate for cutting.—E. BURRELL.

CALIFORNIAN IRISES.

TO THE EDITOR OF THE GARDEN.

SIR,—I have read with interest the article in your issue of September 5, 1896, on Beardless Irises. As I am familiar with most of the Californian species, I can, I think, give you some interesting notes regarding them.

IRIS MISSOURIENSIS is not really a Californian species. It barely enters our borders in that section east of the Sierra Nevada. That is Californian only in name, and more properly belongs, both geologically and in its flora, to the Great Basin.

I. LONGIPETALA is the Iris of the section immediately along the sea coast of California from Monterey north for 200 miles. Its home is a region of liberal winter rains and heavy summer fogs. Towards the interior the climate becomes drier, and *Iris longipetala* first becomes confined to the cooler northern slopes of the mountains and still further in the interior gives place to *Iris Douglasiana*. Where found in open lands near the ocean and San Francisco Bay, *I. longipetala* grows very rank, forming great masses in the open pastures and meadows. The soil is usually heavy, but sometimes sandy, and it affects low, wet places.

I. DOUGLASIANA.—The famous Redwood forest of this State lies along the seacoast of Northern California from Monterey to the Oregon line. The forest extends into the interior from a few miles to at one point forty miles. As the coast is left, the forest, which near the coast is composed almost altogether of Redwoods, becomes intermingled with Tanbark Oak, Douglas Spruce, and other trees, until at last the Redwoods themselves are confined to the cold north hillsides and the cooler stream courses, and the main forest is composed of Douglas Spruce and various Oaks. In this high borderland *Iris Douglasiana* finds its home with the last survivors of the Redwood forest. It is also to be found in a few scattered Redwood groves on the north side of San Francisco Bay. The winter rains in its home are heavy, but from May till October there are none, and fog and dews are rare. *Iris Douglasiana* grows on the cool northern slopes in the woods or along the cooler canyons in well-drained soil, usually clayey, but often gravelly, composed of rocky debris and leaf-mold. It seems to grow best in the latter, and at its best it is certainly one of the most exquisite of the genus.

I. MAACKII ranges from San Francisco Bay northward the coast range and well into Southern Oregon. It begins where *I. Douglasiana* leaves off, and is common in all of the great coast range section, preferring loose, dry soils and warm situations in the timbered sections. It grows best in loose, dry, gravelly soils in open woods. The type of the species is lilac or purple; white spots rarely occur, but in some sections all of the plants bear yellow or creamy flowers. The line of demarcation is drawn very strongly between the lilac and the yellow variations, and I know of two instances where within a half-mile the yellow flower disappears, and is replaced by the lilac type. At my home in Ukiah and for 120 miles south only the lilac or purple form is found. Eight miles east they suddenly gave way to the creamy form, and then for 60 miles by the road, the white again is found, until on its eastern

margin it as suddenly gives way to the purple form. In a canyon on another route a few miles from here the yellow form is found on a single hillside, with every conceivable variation from sky-blue to yellow.

I. HARTWEGI is a native of the foothill region of the Sierra Nevada Mountains in California, and extends along that range for several hundred miles. It usually grows in very loose soil in the dry Pine woods, and the climate of that region is even drier than that of the coastal winters than the regions where the other Californian varieties grow. The soil is either a red volcanic one or granitic sand, and never gets really wet.

In the culture of *Iris macrosiphon*, *I. Douglasiana* and *I. Hartwegi* I am afraid that most of your cultivators have made the mistake of planting in too heavy a soil and giving too much water. From what I have said, it can be seen that these species come from regions very dry in the summer, that they grow in well-drained soils and make their growth in the winter and spring in their native homes. In the summer they ripen up hard and the roots become dry and wiry. With the coming of cool weather and moisture in the fall, they at once start into growth. I examined plants this fall before there was enough rain to wet even an inch down, and found plants in some instances starting new roots. I lifted wild plants of *I. longipetala*, *I. Douglasiana* and *I. macrosiphon* about October 15, which were then quite dormant or a few barely starting, and planted at once in loose, moist soils. At this date (November 7) strong new roots are starting. I note that Max Leichtlin—as reported in *Garden and Forest* by Mr. Gerard—says that he has successfully grown *I. macrosiphon* from seed, and finds that it can be handled readily just as it starts into growth, which with him is in May. It is apparent that his seedlings have adjusted themselves to the changed climatic conditions, and in Germany are taking their rest in winter instead of in summer, as here. I have for some years had *I. Douglasiana* in cultivation, and I have never seen wild plants to match my own. They are growing in a cool corner among Ferns in a rich soil of clay and compost. I have a large bed of *I. missouriensis*, now in its third year, from small wild plants. I planted in May and they have done well. *Iris longipetala* I found no difficulty in establishing. *I. macrosiphon* I have in strong clumps, but, owing to a lack of knowledge at the time, my present old plants are the survivors of a much larger number. Success with these Irises is to be found in giving them sunny quarters and not too much water, and transplanting just as they start into growth.

CARL PURDY.

Ukiah, California.

Anemone japonica alba var. Lady Ardilla.—Having read the remarks of "S. W. F." in THE GARDEN for November 14, page 388, wherein he describes the above as inferior to *Anemone Honoriae* Jobert, as the raiser of the above, I would be glad to know, first, if "S. W. F." has got the true variety; secondly, if he has given it the proper treatment. *Anemone japonica* *Lady Ardilla* has a decided objection to anything in the way of fresh manure, or to a bed or border that is over-rich. It delights in a deep, well-preserved loamy soil, to which leaf-mould has been added at the time of planting; in this soil it will flourish. The variety is easily distinguished by its strong, robust growth and large, Vine-like foliage; its flower-stems are strong and attain to a height of 4 feet. It is a profuse bloomer; its petals are large and shell-like, tinged on the back with violet-purple; its flowers are replaced by large heads of seed. Here under ordinary treatment this season it has retained all

its distinctive qualities. I know there are cases in which failure has been caused by planting in ground that had been made over rich, but if "S. W. F." will treat *Anemone Lady Ardulana* as above, I am convinced that his present unfavourable impression will be removed.—ANDREW CAMPBELL, *The Gardens, St. Anne's, Clonlony, Co. Dublin.*

A GARDEN IN THE LAKE DISTRICT.

PERHAPS the following notes from a little garden in the lake district may interest those who with only one gardener and a few frames—like myself wish, nevertheless, to grow as large a selection of flowering plants as possible in a small space. The garden in question is guiltless of design, having (with the exception of a square raised flower plot) been gradually made out of a pasture field, sloping rather steeply to the S.W., well sheltered from the north wind, but exposed to the furious south-westerly gales which often make havoc of the summer flowers. The house, a long rambling building, is entirely covered with creepers—Ivies, an enormous Traveller's Joy, Vinea, Clematises, Jessamine, Honeysuckle, Pyracantha, and Roses, Ayrshire, Aimée Vibert and Maréchal Niel. There is a three-cornered lawn on which are groups of shrubs and, as yet, small trees—*Pyrus Malus floribunda*, *P. spectabilis*, *P. coronaria*, *Spiraea*, *Scarlet Oak*, Koelreuteria, Thorns in variety, *Forsythia*, *Philadelphus*, strong growing Rosess, Cotoneasters and *Rubus nutkana*. On one side of the lawn is a wide border backed by an attempt at a pergola, in front of which stands a row of choice evergreen shrubs, the rest of the border being filled with Oriental Poppies, *Delphiniums*, *Silphium*, *Echinops*, *Monarda*, *Anthericum*, *Cimicifuga*, *Rudbeckia*, and other large herbaceous plants, with masses of Lilies—*testaceum*, *davuricum*, *crocceum* and *chalcodonium* growing like weeds. The border on the other side is not so wide, and contains a Glastonbury Thorn, which flowers here at Easter instead of Christmas, two of the first Japanese Maples imported into this country, *Genista Andreana*, *Hemerocallis*, *Gai-lardia*, great white *Asphodel*, and more Lilies, especially *L. pomponium verum*. At the edge are Mrs. Sinkins and old laced Pinks. The road in front of the house is on a terrace supported by an old drystone wall, in the crevices of which live various *Sedums*, *Cistus*, woolly Thyme, *Arabis*, and *Housleeks*, the cowherb variety forming large tufts. There is a narrow border at its foot with many Lilies, the air in June filled with the scent of the little yellow Turnips, and *L. superbum* grows nearly 6 feet high at the shady end near a big bush of Sweet Gale, with Willow Gentians growing through it. There are Roses also—Teas and Perpetuals of many kinds. *Pyrus japonica* and *P. Maulei*, herbaceous Clematises, Campanulas, hardy Fuchsias, and a crowd of smaller things fill every vacant space. Not far off a standard *Prunus Pisardi* in the centre of a peat bed is a vision of beauty every spring with its pinkish flowers and purple leaf-blades. This autumn, for the first time, it bore two or three plums. Scotch and old-fashioned summer-flowering Roses form a thicket, and a large Musk Rose on a low wall blooms abundantly in September. Lord Penzance's Sweet Briars have not been here long, but they promise soon to rival in size the huge bushes of the common variety. Tree Peonies grow well, if slowly, and I hope for great things from a row of imported ones, but I fancy they will hardly beat Reine Elizabeth. *Anemone japonica* is a perfect weed; one of the best borders is filled with

it; and *Tropaeolum speciosum* is rapidly taking possession of another.

I have said nothing of the bulbs which line the foot of every hedge and are planted in quantity in the grass—double *Snodrops*, which have been here since time unknown, in company with scarlet May-flowering *Tulips*, Daffodils from Wordsworth's own to *Horsfieldi* and *Emperor*, Squills, *Fritillaries*, *Colchicum*, *Tritonias* and others. Nor is there space to mention the summer flowers which sometimes come to grief early, Dahlias having been cut down by frost in September, but then we are nearly 800 feet above sea-level. Some of the most interesting plants are still in the stage of experiment. *Eremurus*, *Lilium giganteum* and some of the new *Kniphofias* have not yet passed through a hard winter, and I hope may never have to withstand such an one as the beginning of 1895, when the lake was frozen for seven Sundays, and if it had not been for a snow blanket everything in the garden would have been killed down to the ground at least.

Perseid.

MAY.

NEW REGULATIONS AT THE HALLES CENTRALES, PARIS.

THE chief points of the new regulations at the Halles Centrales are embodied in a law which came into operation on June 13, 1896. The text of this law is too long to be reproduced here in full, but we may say that, on the whole, it appears to us to define and clearly mark out the privileges of factors and salesmen in such a manner as now to afford both to sellers and purchasers a certain amount of security. The scope of this law is especially obvious from the following provisions:—

Art. 2.—Any person may receive from growers and forwarders of field and garden produce a commission to sell the same, provided he can fulfil the following conditions:—

1.—He must be of French nationality and possessed of the civil rights which are thereto attached.

2.—He must never have incurred any penal or disciplinary condemnation to stain his honour.

3.—He must have his name inscribed on the list drawn up for that purpose by the Tribunal of Commerce after inquiry made and notification from the Prefecture of Police.

4.—He must certify as to the concession to him of a position in the market by the civic authorities, and also as to his having deposited in the municipal treasury, as security, a sum of money equal in amount to the sum total of the market taxes paid by the occupier of the position at the last visit of the tax-collector; the amount, however, of such security is in no case to exceed 2500 francs (£100).

Art. 3.—Salesmen are expressly forbidden to purchase on their own account any goods which have been forwarded to them for sale or similar goods from any quarter, to trade with either personally or through the agency of other parties even outside the precincts of the Halles Centrales. They are also forbidden to possess any warehouse or store-house either in Paris, or in the provinces, or in foreign countries. They are to be remunerated solely by the commission which has been freely agreed upon between themselves and those who employ them.

Art. 8, 2nd section.—The Prefecture of Police will maintain good order in the matters of the *bond-fide* character of the business transactions, the soundness of the goods offered for sale, and ensuring freedom of moving about by preventing overcrowding. For this purpose, a commissary of police will be specially attached to the Halles Centrales, and all the inspectors and agents under his orders will have authority to report on these and other subjects.

Art. 10.—Factors and salesmen who are now doing business in the Halles Centrales will have three months allowed them from the date of publi-

cation of the law in the *Journal Officiel* of public administration to enable them to satisfy the requirements of sections 1, 2, 3 of Article 2. If they do so, they will have a right of priority in claiming the concession of a position in the market.

After all, we have been told, are only one when they are properly carried out, and undoubtedly it is reasonable to expect that the authorities of public administration will steadily enforce them in the present case.—*Revue Horticole.*

GARDEN FLORA.

PLATE 1095.

THE WEEPING JAPANESE CHERRY.

(*PRUNUS PENDULA.*)

(WITH A COLOURED PLATE.*)

THE Cherries and double Cherries with which we are mostly familiar are quite distinct from this, which we saw in good condition last spring in M. Letellier's nursery at Caen. It was a standard tree with graceful weeping branches, the effect a little way off being something like that of a weeping Almond, but quite distinct from anything we had ever seen. As this family of shrubs and flowering trees has been so recently and well described by Mr. Bean (Oct. 17th, p. 312), we need not repeat what has been so ably said. This is a very precious addition to our trees and shrubs, and one which it would be well worth our while to try on various stocks, so that it might not show the habit, which some double Cherries do, of suddenly dying off, no doubt owing to having been grafted on a stock to which they are averse. It should be got from seedlings and on its own roots, and also from layers or grafted on any vigorous stock. If we get healthy and enduring plants of this, as all other Cherries naturally are, people can then see what a lovely thing for covered ways and bowers, as well as a weeping tree, we have in this precious Japanese Cherry. Under the brighter skies of France and the United States it flowers more profusely than it does in Britain, and we have heard one of the leading authorities on trees and shrubs in North America describe this as the most lovely of all Japanese trees. But even in duller Britain it is surpassingly beautiful, and there are fine specimens in both the Coombe Wood and Knap Hill nurseries.

The following notes have come to us in a letter from M. Letellier concerning this and other Japanese Cherries:—

This species of Cherry is very common in Japan, where it appears that it occurs very frequently in the extensive thickets which are one of the features of that country. Like all the varieties of the Japanese Cherry trees, it does not produce any edible fruit, and that explains why the Cherries which are eaten in Japan are imported from Australia for the special use of European residents. Last year we received a collection of twenty-two varieties of Japanese Cherries. We have been assured that this collection cannot be surpassed for completeness, and that all the varieties which it includes are quite distinct. Of this, however, we shall be better able to judge either next year or the year after, when they come into bloom. None of them has flowered yet. Besides the variety *pendula* mentioned above, we have here under cultivation the names of Japanese Cherries of other varieties, which are, however, already pretty well known, especially the one named *Cerasus Sieboldii flore albo pleno*, a splendid form, the flowers of which are very broad, but

* DRAWN FOR THE GARDEN IN MM. LETELLIER'S NURSERY, CAEN, FRANCE, BY H. G. MOON. Lithographed and printed by J. L. Goffart, successor to Guillaume Severeys.



Flowering Maple

rose-coloured rather than white. The other *Cerasus* (so-called), *Siboldii* fl. luteo-virecenti pleno, has very large flowers of a greenish yellow colour and semi-double rather than double.

THE WEEK'S WORK.

KITCHEN GARDEN.

SEED POTATOES.—These have in too many cases to be stored somewhat thickly at the time of lifting, but little harm will have come to any such up to the present, as shoot production will not yet be much in evidence where cold storage is practised. A general thinning out of the early varieties should, however, now take place, and this especially important with those intended for forcing, as the loss or weakening of the principal sprouts on such tubers will retard the crop and lead to the production of undersized tubers. Where a commencement in forcing under the pot, or any other system, is soon to be made, sufficient tubers should be selected at once and the shoots reduced to one or two at most on each tuber. The latter may then be placed in shallow boxes, have a little well-

to act as a check on the pre-disposition to become drawn. Late seed Potatoes can but seldom be afforded room to lie thinly, and these will still be perfectly safe in the clamps. An early opportunity should, however, be taken to overhaul the heaps and to remove all diseased tubers; this and the airing they get in the process will check any tendency the sound tubers may have towards early sprouting.

STORE POTATOES.—Though I am no believer in the theory of transmission of disease from tuber to tuber after storing, I advise that all the stores should be examined and diseased tubers thrown out before winter really sets in, as these are, when thoroughly rotten, very disagreeable to handle and make messy patches throughout the heap, and as most of those which are attacked can now be seen they are best got rid of while there is a chance of keeping the clamp dry. In re-covering the clamp it will be advisable to throw sand and replace with new any Bracken or straw which may have become wet, as such material will have but little frost-resisting power. Finally do not stint the covering. This is frequently done, and there are but few of us who have not heard a sad outcry about frozen Potatoes after each winter which has been at all severe. A little more

early work, are not far from the surface it is wise to cover with soil the small portion of bare stem which they have, adding more from time to time as the stems lengthen, so that at no time shall the collars of the plants be exposed to the direct influence of frost. This is easily and quickly managed with the aid of a good draw hoe and should not be neglected.

CUCUMBERS.—Up to the time of writing the weather has suited these excellently, for November has not given us its usual number of foggy and dull days which tell so badly on many things which are being forced out of season, and especially so on Cucumbers. Extra vigorous growth must, however, be made no excuse for overcropping, for those who have only the space available by one half and one-tenth of plants from which to get the winter supply, will find that only by strictly limiting the crop to a tithe of what the same plants would carry in summer, can they keep the crop going without a break until plants raised from seed early next year are in fruit. Very little ventilation will be necessary now, and anything in the shape of cutting draughts must be avoided. Still, I like to give sufficient during the mildest part of the day to prevent the stuffy state of the atmosphere which is sometimes allowed to prevail in winter Cucumber plots. Syringing should be almost entirely suspended for the time being, as it creates a fibby growth and insect pests may be kept down by other means. Light top-dressings should be given whenever the roots appear through the surface, as such roots would soon perish if left uncovered. Should the stems show any signs of canker, as they sometimes will, just above the surface of the soil, there is no surer cure than smothering the affected parts with newly slaked lime in a powdered state, and this should be done before the disease has time to spread far.

TOMATOES.—The progress of winter-fruiting Tomatoes is slow, the fruits taking a long time to come to perfection, but it will not do to attempt hurrying them by increasing the temperature, as this only induces the formation of shoot-growth at the expense of the fruits. A night temperature of from 55° to 60° suits the plants well and should not be much exceeded. Free ventilation is imperative, and sufficient must be given at all times to keep the inside air buoyant, and only in the case of very foggy weather should the ventilators be entirely closed. The plants must not be allowed to suffer from want of water at the roots, but beyond that no water should be used about the house. J. C. TALLACK.



Gunnera manicata on pond margin in College Gardens, Dublin. (See p. 451.)

decayed leaf-mould or light soil put in round them, so that only the shoots are left exposed, and then be placed in a light position in a moderately heated house, when growth will at once commence, and in three weeks or so they will be in the best possible condition for potting or planting. During this period they should be kept in a faint heat, and when the roots are well developed the time comes for transferring them to their growing quarters, great care is necessary to avoid the slightest semblance of a check; it is only by the observance of this that anything is gained by the system, and I would prefer using tubers taken direct from the store boxes to depending on any started in this way, and which did not look happy either before or after the transfer to pots or frames. Tubers for successional forcing batches and those for planting in the open are best served by standing them on their eyes ends in shallow boxes, a single layer in each box. The Kidney-shaped varieties usually used for early crops occupy far less room in this position than they do when laid flat. Instead of keeping these any longer in the dark root-store, where the atmosphere is naturally humid and close, I prefer to put them into frost-proof sheds, where they will get a little light and a sufficient circulation of air

material and a little more labour would avoid all such calamities.

Broccoli.—As a rule the supply of Broccoli here after New Year's tide, or when Veitch's Self-protecting is over, is uncertain, more especially so of late years, since it has become difficult to obtain the true stock of Snow's Winter White which did much good service. I am fortunate this year in having obtained what appears to be an excellent stock, and all the plants throughout the plot are now thriving in. As it is impossible here to obtain mid-winter Broccoli from outside, these plants will now be lifted and transferred to the deep pits which are fast being cleared of the Self-protecting and the Autumn Giant Cauliflower, treating them in precisely the same way as I recommended for the latter varieties some time ago. By these means an unbroken succession will be maintained up to the end of February.

CABBAGES.—The growth of Cabbage plants has been more rapid than usual this year, and the stems are in consequence sappy and liable to injury from severe frost when it comes. Moulding up the plants is the best preventive of such injury, and though the lower leaves of such varieties as Elham's Early, and others which are used for

HARDY FRUITS.

BUSH FRUIT.—The season up to the present time having been fairly mild, birds have in no way interfered with the buds of either Gooseberries or Currants. We may, however, expect a change in the weather shortly, when, if the ground should become covered with snow for a few days, so that the feathered tribe would be unable to find food, they might set to work, and so destroy the greater portion. Every possible care should therefore be taken to prevent them from doing so. If the bushes have been pruned they ought to receive a dressing of newly slaked lime, or a mixture of lime and soot as previously advised, anything, in fact, that will make the buds distasteful to them. It is not only the bullfinches and linnets that take the buds, for where fruit plantations are adjacent to farm buildings sparrows congregate in such numbers that they soon strip the bushes, leaving nothing but the bare twigs. To have nicely shaped bushes in such places it will be necessary to keep these mischievous little creatures off them. Where this can be done effectually, early pruning is advisable, as the buds left always seem to produce finer flowers, therefore better fruit. As previously pointed out, all varieties of Gooseberries have not the same habit for while Warminster, Riffman, and others of that class make upright shoots, many of the larger kinds make

pendulous ones. These latter are therefore best grown as bushes having stems from a foot to 18 inches high, that the fruit may not get dashed by heavy rains. In pruning these latter the young shoots should also be shortened to prevent them assuming such a pendulous habit. The buds being yet small no harm will be done if the shoots are painted with a soft brush, using a mixture as previously advised. In the case of Red Currants the shoots ought to be allowed ample room, as far more fruit will be gathered from bushes where the light and air are freely admitted, than from others that are allowed to become a thicket of wood. In the former case the growth made will be short-stemmed and firm, thickly studded with berries, while the latter will be soft and pithy. Both these fruits are in great demand, and on that account should be well looked after. Where any planting has yet to be done, do not fail to bring all such work to a conclusion as speedily as possible.

BALTIMORES.—It is astonishing the length of time these have continued to fruit this season, and though there is but little flavour in those ripened now, they give a variety. Where grown against a wall so as to be protected, the fruit will hang for a long time. I recently saw a dish gathered from such a position that was very creditable. The foliage, too, assumes a beautiful colour late in the season. There are not many places where a vacant wall could not be found for a few plants of these. Even against the stable or outbuildings they would not do amiss, as they require no particular cultivation, though when well grown, better flavoured fruit and in greater quantity may be gathered.

RASPBERRIES.—Assuming that these have not yet been tied, they ought now to receive attention, for where the canes grow strongly the wind will be likely to twist them off at their base. These like all other fruits, do better when allowed ample room; the space between must in a measure depend on the variety and the quality of the ground. Though requiring liberal treatment, it is not well to have them strongly trained, as they are frequently injured in severe winters. To avoid this, single rows are preferable. Most people will by this have become acquainted with Superlative. Those who have not would do well to plant a row. Hornet is also a good variety, and where grown in quantity this will answer well, as the canes are stout enough to do without support. Norwich Wonder is also a good variety.

STRAWBERRIES.—Owing to so much wet during September and October, plants that were put out early have made good growth. The ground, however, between the rows will have become infested with weeds unless a crop of some kind was grown. It will be difficult to destroy these by hoeing. The plants should be carefully weeded and the spaces pointed over, turning the weeds under, for if allowed to remain they will be troublesome in spring. Care must be taken in doing so not to injure the roots of the Strawberry plants or to loosen them in the operation, or they may be lifted by frost should the winter prove severe. Where there is any fear of this, the ground may be made firm again after the weeds are turned under. Strawberries in pots that still remain unrooted ought to be either plunged in sches and lights put temporarily over them, or removed to quarters where protection could be afforded in the case of severe weather.

H. C. PRINSER.

Crinum angustum.—Truly a remarkable species, at once the noblest of this well-known tribe of bulbous plants. The plant bearing the above name is now in flower in the Palm house at Kew, and should be seen during the next few days by all interested in choosing a subject for forcing subjects. Some idea may be formed of the exceptional beauty of the species from the fact that its leaves are between 3 inches and 4 inches broad and about 4 feet in length; the scape, which is lateral, somewhat compressed, and about 3 feet high, is crowned by an umbel of about two dozen of its flowers, a striking and

distinct characteristic of these being their brilliant colour while yet in the bud state. The colour is of an intense crimson-lake and extends the entire length of the tube, thus rendering the undeveloped head of bloom striking and attractive. In the dulness of a November day this brilliant shading displays itself to great advantage. The species is a native of Mauritius and requires the temperature of the stove.

KITCHEN GARDEN.

WINTERING ENDIVE.

At this season, the end of November (one does not feel the loss of a few salad plants with plenty of Lettuce and other green salads in abundance, as the wet autumn has made growth so late and plants so plentiful—in fact I never knew a season when such variety could be had with so little care or with what may be termed only ordinary culture. On the other hand, a gross growth in salads means scarcity three months hence, unless some means are taken to protect the crop. As regards protection, much depends upon the convenience to do so. Many growers have to make rude shifts, and it is not always that those who have every convenience have the best supplies. In the southern parts of the country I have wintered the Moss-curled Endive at the foot of a south wall on a sloping border. As most growers of this useful vegetable are aware, moisture at certain seasons is more harmful than frost, and there is less difficulty on a dry or sloping border, and the wall throws off a lot of rain and snow. The variety named is one of the most tender of the Endives, and cannot be classed as most useful. Doubtless it is the most ornamental and a pleasing addition to the salad bowl at this season, but it is the most tender, being very susceptible to cold and damp; therefore it should be used for autumn supplies. Those of the Batavian type are the best for keeping, and do not decay like the Moss-curled. The Improved Round-leaved Batavian may be kept good well into April if lifted with a ball and wintered in a cold frame. After several years' trial of wintering in the open, I have come to the conclusion it is useless to rely upon unprotected plants, as though there was no difficulty in the winter of 1895-6, how rarely can we rely upon such. As regards protection, I have come to the conclusion nothing is equal to frames, and plants nearly full grown may be lifted with a nice ball of earth and roots if precaution is taken when planting for winter supplies to plant in well-firmed soil. It is surprising what a quantity of plants may be got into a small space, as they are not injured placed close together if due attention is paid to airing and removal of decayed outer leaves. At one time, requiring a lot of Endive in the early spring, I had to make various shifts, and resorted to turf pits with thatched hurdles, using dried Bracken in severe weather. I never had better supplies or of better quality. I was particular as to the removal of the covers in mild weather and there was little decay. Coddling, if I may use the term, is the worst enemy the plants have, as once they are soft and decay begins it is difficult to arrest it. Endive suffers considerably if shut up for a long time and then exposed to bright sunshine; indeed, few plants suffer so quickly; far better than gradually, leaving on the covers and leave open after sun has passed over than expose all at once. Many have with advantage litl shelter in sheds with a fair amount of light. Plants do fairly well given a cover in severe

weather, the only drawback being they cease to grow when in a dark place; the top blanches and this does not tend to keeping. For spring supplies one may often adopt the middle course. Lay those for use up to Christmas in such places and later plants in a lighter place. I have protected the Batavian types with success at the foot of a warm wall. The plants are lifted and placed close together, care being taken to get a fair ball of earth. This prevents flagging, an important point, as once the leaves drop at this season they rarely get erect again. In severe weather a few sticks or boards are placed in front of the plants and a mat with Bracken or litter will keep the plants sound in ordinary winters. A few have Peach cases or similar structures. In such they can winter the plants grandly, as the treatment required for the trees previous to forcing is suitable for the plants. I do not advise covering in their growing quarters in the open for late supplies, as excessive moisture is more injurious and the plants rarely thrive unless in the most favoured situations.

G. WYTHES.

Yellow garden Turnips.—With a desire to test the edible properties of Golden Ball Turnip, which is certainly a very beautiful and solid Scotch selection from the old Orange Jilly, I obtained a few bulbs and had them cooked separately, but at the same time with some bulbs of White Snowball. There could be no question that the greater excellence of the yellow ones. They are of more solid or marrowy texture, better flavoured, and when served, because of their colour, more attractive. I must say that in the south the flesh has a stronger taste, but you know it is so. Certainly white Turnips are with us often not only hard, but hot, and so far objectionable. It is a matter for surprise that yellow garden Turnips are not more generally grown.

Giant Leeks.—At the recent show of vegetables at the Westminster Aquarium it was noticeable that the judges favoured the stout-stemmed Leeks, some as big almost as a man's wrist, though wonderfully well blanched, over those blanched several inches longer, but though very handsome, yet of much less thickness. From a purely edible point of view it has generally been held that the smaller the stems are if well blanched the better. Leeks used to be rarely consumed in a whole state, but cut up small and employed to give body and flavour to soups, they are delicious. I had the opportunity recently of tasting some of these giant stems when cooked alone, the stems being cut into lengths of 4 inches. They were first well boiled in water which was poured off, then a little fresh water, some nice gravy and melted butter were added, and allowed to simmer. Served up, they were delicious, perfectly tender throughout, and entirely devoid of any strong taste.—D.

Stachys tuberifera.—We have reached the time of year when the small white tubers of this hardy plant become very useful, and, properly cooked, constitute delicious eating. Many useful vegetable introductions from time to time suffer from bad cooking or imperfect methods of presenting them at table, and the Chinese Artichoke, so called, is amongst them. In a few places, and it is far from being generally grown, the cooking is being understood and appreciated, the tubers are in great request. That is not a matter for surprise, because when so presented they are really then very delicious. Very hardy and wonderfully productive, it seems but needless to plant, say, half a rod of fairly good ground with tubers at from 12 inches to 14 inches apart in February or March to have an abundant supply in the ensuing winter. When fully ready for lifting, the roots having ripened, they are quite white, and if, when got up, those intended for cooking be at once thrown into clean water, not

only is their purity of colour preserved, but they speedily become cleansed of dirt. Next trimmed, dried on a cloth, and gently boiled, the water poured off so that the tubers dry, then gently fried in a pan over a slow fire in butter, so as to brown them, and served with gravy or melted butter, they are as pleasant a dish as any form of root or tuber can furnish. Unlike Potatoes, the tubers are so small they can be eaten whole, which is an advantage. It is just possible that because the cooking gives a little trouble, this Stachys may not be popular in the kitchen.—A. D.

NOTES ON PEAS.

The varieties grown here are Veitch's Extra Early and William I. Main-crop, a very good green Marrow, 3 feet to 4 feet in height, has proved a useful variety with me this season on a south border, following well in succession William I. It is a good cropper and excellent in quality, pods large, with nine to eleven Peas. Next in succession comes Champion of England, good in quality. This is followed by Prodigy, one of the very best Peas for a main crop; height 4 feet to 5 feet. This season Criterion has proved a valuable variety for mid-season; height 5 feet to 6 feet, a very heavy cropper, and Peas of excellent quality. This is succeeded by British Queen, still one of the very best; and for a late variety, Autocrat is the very best, producing well until cut off by frost. Eight good successional varieties are Extra Early, William I. Main-crop, Champion of England, Prodigy, Criterion, British Queen, and Autocrat. Four good varieties for small gardens are William I. Main-crop, Prodigy, and Autocrat.—BAILEY WADERS, *Birdsall, Yorks.*

The Chelsea Gem, I have grown no better dwarf-growing early Pea. A tall-growing early sort named Springtime promises well as an early and abundant cropper. Just a little later in coming on is Gradus, a sort that does not crop so heavily, but which is a great advance on any of the green early Marrow Peas that have come under my observation. I have grown Pioneer two years, and find it an enormously heavy cropping sort. The Peas are not so green in colour as those of the last-named, but the flavour is as good, and it crops much more heavily. Another very productive Pea that is worth attention is Early Favourite. The largest-podded and in other respects a first-class variety is Prior. The pods run under ordinary culture up to 6 inches in length, and are well filled with large green Peas of a delicious flavour. Not quite so long in the pod, but much broader and perhaps a greater Pea altogether, is Potenace. Grown alongside any of these, the long highly-esteemed William I. is poor. Veitch's Main-crop is an excellent sort of the Ne Plus Ultra type, which, it may be said, many of the newer Peas largely favour. Memorial and Wem are two of less, and Fame, an older variety, is very good. Two excellent main-crop varieties are Gemini and Epion. They are tall-growing and possessed of the other qualities of cropping and flavour in a high degree. Webb's Senator I have found an excellent variety as regards its cropping qualities.—R. P. BROTHERTON, *Tynnington, East Lothian.*

Exington has proved the best this season, and Chelsea Gem has been very fine. May Queen and Sutton's A. I. have all been good. For twenty years I have grown Criterion, and it has proved the most uniform in habit, quality, and crop of any Pea I have grown. Duke of Albany, Prodigy, Veitch's Main-crop, Fillbasket, and Queen (Sharp's) have been splendid. Of late Peas, Ne Plus Ultra is very fine, height alone is against it in small gardens. Latest of All and Autocrat are the best late kinds here.—GEORGE HARRIS, *Alnwick Castle, Northumberland.*

I do not grow many new Peas, preferring to rely on well tested varieties. I think the following selection will hold their own with many newer varieties. Early: Chelsea Gem, Veitch's Extra Early Marrow, and William I. Main-crop; Main-crop, Criterion, Duke of Albany, Prodigy,

and Veitch's Perfection. An excellent Pea little known is Fowler's King, growing to 5 feet in height, very vigorous in haulm, and a great cropper, averaging nine Peas in a rather flat, long pod, and of delicious flavour. For late gathering I prefer Veitch's Autocrat, Cheloneion (a fine Pea), Ne Plus Ultra and Sturdy.—FREDK. SCRIVENER, *Bolton Hall Gardens, Leyburn.*

CABBAGE IN WINTER.

I HAVE in former years noted the value of a good supply of Cabbages for early spring cutting; there is an absence of coarseness and the flavour is quite distinct from that of those grown at other seasons. Now is the time to make good any deficiency, and with attention there will be good heads for late spring use. Many fine heads with thin crob running or bolting just as it should turn up in hot weather, promise much of this is owing to faulty culture and a loose and rich soil. I am aware that this latter remark will be questioned by some who think it necessary to dress the land heavily with manure previous to planting. For years I have adopted the opposite course, not giving food at planting, and can safely say that not one plant in a hundred will run. To prevent running, I find it advisable to make two sowings and two plantings, getting a succession of heads free from the evils referred to. I am aware in many cases less quantities are required. One sowing may suffice, but even then it is equally important that the one lot grows not should. Some few years ago I had many plants bolt and tried various remedies, but came to the conclusion one could be too good to the plants. I now plant the earliest Cabbages on ground just cleared of Onions. The ground is not given any culture for the Cabbage, merely hoed over and shallow drills drawn for the seedlings. Many would advise fork up or loosening of the soil, but a hard firm growth is required. Planted just as the spring-sown Onion crop is cleared, there is freedom from running, no danger from frost, and an early lot of heads for spring cutting.

I now come to a few necessary cultural details during the winter. Of course, cleanliness is the first, and, though simple, it tells on the health of the plants. I find it of great value to keep the ground clean after planting, frequently loosening the surface and keeping down small weeds. I notice some plants this season do not appear to have the same vigour as in previous years. The rainfall has been excessive and weeds have been most troublesome. What I lay most stress upon, especially in light soils, is now going over the quarters and making the plants firm. Each plant is well trodden round and then well moulded up, the soil being afterwards drawn well into the lower leaves. Treated thus, one need not fear bad weather, and in mild winters the hard soil is conducive to fibrous root growth and prevents bolting. Any filling up should not be delayed, and, though full late, if good plants are obtainable and put out now, they will give nice useful heads when the earlier lots are cut.

G. WYTHES.

CELERIAC AS A WINTER VEGETABLE.

The value of the above as a winter vegetable is not sufficiently known. Anyone who possesses a garden may grow Celeriac, as the culture is very simple. This vegetable, in my opinion, has not received sufficient attention in this country; why, I am unable to say. Now that Celery has become a favourite winter vegetable when boiled, there is a chance of Celeriac receiving more notice, as the flavour resembles that of Celery, and being so readily grown it should find favour. I am not at all satisfied with the meagre space allotted to this vegetable in our leading seedsmen's catalogues, as in the description of Celeriac it is recommended as useful for soups—very poor advice for so good a vegetable. The root when boiled and served with white sauce is a perfect dish. It is one of the best vegetables to serve with poultry. There can be no objection to its preparation, as good

roots sent to the kitchen are soon cleaned and ready for use, requiring less preparation than Artichokes and much skill in cooking, as if dressed generally and served whole, it will possess the best flavour as the best Celery. As a vegetable I am disposed to class it far ahead of Artichokes, and for winter it has few equals. For salad it is far superior to Beetroot. It is a splendid addition to the salad bowl in winter. There are not many varieties, and to show how little this root is appreciated in this country I fail to find any distinct kinds catalogued, though I know there are at least half a dozen. A new introduction I recently saw growing in the Royal Horticultural Society's gardens has a fine root, pure white, but with variegated foliage. I do not know if it will prove as hardy as the green-top kinds, but the flavour when cooked was excellent. I believe this variety is a great favourite in shallow soils on the Continent—at any rate, it is worth a trial. The best hardy type of Celeriac I have grown, taking size and quality as leading points, is the Large Smooth Prague of the Messrs. Vilimorin, of Paris. It is a splendid root, of great substance and excellent quality, and a variety I would certainly advise introducing cultivators to grow. I have had the ordinary Turnip-root, the only variety often catalogued in this country sent for the First Prize, and it is not worth culture in comparison. The Early Erfurt is also a fine type of medium size and specially good for early sowings. For storing for winter the larger kind is better. The Apple-shaped is good, but not superior to the Prague, though the quality is quite equal. The culture is very simple. If sown like Celery in heat, pricked off and planted in the open in May, good roots will be formed by September. It requires no trenches, but in light soils drills are advisable, as the plant is a great lover of moisture and well repays copious supplies of liquid manure during growth. I plant in drills 6 inches deep, the plants 18 inches apart in the drill, and 3 feet between the rows; the ground is kept clear of weed growth and no moulding up is required, only keeping the plants free of sucker growth and encouraging one main growth. The roots may be lifted in November and stored like Beet. I prefer to leave them in their growing quarters and draw up some soil to cover the crowns. Treated thus they are of better flavour.

S. H. B.

Red Cabbages splitting.—The splitting of pickling Cabbages is very common this autumn, as indeed it generally is when a very dry time during the growing season is followed by much rain. I had a fine row this season, some of the heads being very heavy. They remained quite intact until the rain came, when every one split except one burst open. When this occurs the wet soon rots them. The best way to cure cases is to cut them immediately, washing is perceptible, otherwise pull them up, and suspend them from the roof of a cool shed until wanted for use. I have an idea that red Cabbages raised from spring sowings are less liable to crack in autumn than those from autumn-sown seed, as growth does not come to a standstill so soon. It is surprising what fine red Cabbages can be grown from seed sown in a frame in February.—J. C.

Improved Round Batavian Endive.—The merits of this useful Eadive have been often noticed in these pages, and after a longer trial I have no hesitation in describing it as the most useful of the winter varieties on account of its hardness and vigorous constitution. Those who have only grown the old round-leaved variety have no idea of the improvement in the above, as it hearts freely and blanches naturally in the centre. The young leaves as the dark days approach fold in, thereby protecting the heart of the plant. With this variety there is much less waste than with the curled kinds and the flavour is much liked. Last winter on a sloping border it was uninjured, and with a little protection in severe weather it winters well. I have observed that if protected and the covering allowed to remain on till thawed, the plants suffer less, as bright sun soon shrivels the leaves when frozen, and winds have

the same effect. Many persons like Endive as a green vegetable. This is the best for that purpose on account of its size and quality.—B. M.

FORCING ASPARAGUS IN ORDINARY BEDS.

WITH an abundance of fresh leaves, those who force Asparagus have just the material at hand the roots require, and the forcing may be done at small cost without destroying the roots, as is done when the plants are lifted. Owing to this vegetable requiring so much time to build up the crowns, forcing is a costly proceeding when roots are specially grown for the purpose. My method for permanent beds not grown with an idea of forcing is very simple, and can readily be carried out if there is, as always should be, a fair width between the beds, say, at least 3 feet. If this is dug out 3 feet deep and fresh leaves rammed in as firmly as possible any time during December, with quite 1 foot of leaves above the bed, a gentle heat will be generated, and by using fresh litter from the stables as the heat declines, good heads may be had weeks in advance of ordinary beds in the open. It must be thought the removal of soil between the beds will necessitate the destruction of valuable roots. Such is not the case, as though I admit some roots are destroyed, the plant after forcing gets the value of the new root-growing material and soon makes up for the loss. Of course, it is useless to attempt forcing beds very close together; there must be room for the heating material. Leaves are the best material I have used, as they give a genial warmth without unduly exciting the plants, and though fresh leaves are employed, they must be used in such a state and in sufficient quantity that the heat is retained till growth is fairly active. I have given a depth of 3 feet as enough, but much depends upon the soil and position of the beds. Of course more would hasten the forcing, but rapid forcing is not advised, the object being to excite growth, and at the same time, to save the plant. To get the best return, it will be best to place the leaves in bulk and get them turned over once or twice. As soon as the first lot begins to sink, another lot prepared in the same way should be in readiness. It is necessary to add fresh leaves during the forcing, and also to keep the heating material quite solid. The leaves must be placed in position as gathered, but I do not advise it, as when heated in bulk the heat is more regular. Manure is too soon heated and quickly cools. I advise using some manure on the top of the leaves to keep in the heat, but not at the base. Manure may also be used should there be a scarcity of leaves at the finish. There are other heating materials. Tan fresh from the tan-yard, as regards a steady heat, is doubtless superior to leaves, but only whilst the heat lasts. As food for the roots it is of little use, and to do the plants justice would need removal after forcing. When leaves are employed it is well to give the surface of the beds a coating of warm material till the growth pushes through.

GROWER.

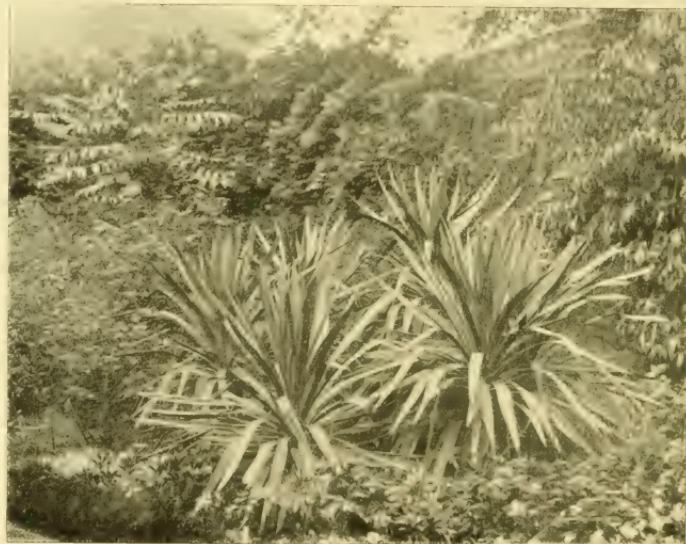
Protecting Parsley.—It is not everyone that has frames to spare for protecting Parsley through the winter. In very small gardens this is often quite out of the question. Much, however, may be done to save the plants from damage from severe frost by temporary protection. In the case of moderately-sized beds, it is easy enough to fix a few supporting rails round the sides and ends and to carry cross bearers from one to the other, these forming a good framework, over which ordinary garden mate, canvas, or oil-cloth covers

can be thrown in inclement weather. After a wet autumn, Parsley stands sharp frost but poorly, and a good healthy lot of plants often quickly becomes next to useless, whereas a little timely protection will preserve the bed. I use iron bearers turned at the ends, the latter inserted into the ground. These are used throughout the summer for protecting seed beds from birds, fish netting being thrown over them. Good Parsley is so much esteemed that a really good bed is worth taking trouble with. In long spells of frost I allow the covering to remain on sometimes for a week at a time.—J. C.

Beet Cheltenham Green-top.—This Beet has of late been brought into prominence, and rightly so, as I know of none equal to it in quality when grown for keeping or winter use. At page 417 I gladly welcome "W. L." contribution. For many years I have grown the Beet in question, and knew it was a great favourite in the Cheltenham district, having received my first seed from a large grower there with the remark, "You

much for winter supplies, and I am of his opinion. Up to November they are useful, pretty also, but not at all reliable for late supplies. I would ask "J. C." to give the winter Lettuce-leaved Endive a trial for mid-winter supplies. This is a comparatively new variety, but one of great excellence, and remarkable for its good quality and doing well in exposed positions. The above variety produces very fine Lettuce-like leaves, and is one of the best for a sheltered border where only wall protection can be afforded. With me it is less compact and slower to form hearts than the Batavian, but it is the best I have grown for keeping late, as it does not run to seed so soon as others, and the flavour is most agreeable when cut in the early stages of growth.—W. B.

Winter Radishes.—I have frequently seen it stated there is no demand for winter Radishes. I think this is often owing to the poor supply. On the Continent the Radish in winter is largely



Yucca and Ailanthus on Pansy border in College Gardens, Dublin. (See p. 451.)

grow this you will grow no other." I was aware of the interesting point "W. L." has brought to light. Many to whom I have pointed out a quarter of Best have raised an objection on the score of the foliage being green, but that is immaterial when the root is of a good colour. I was at the Chiswick trial "W. L." notes, and in most of the stocks of this variety the colour was perfect. I am glad the question of size is also noted. If not sown in rich land there will be no complaint as to grossness. I admit this season many roots lost their true character, owing to the heat and drought at the early period of their growth, with much rain afterwards, this making growth later than usual.—G. WYTHES.

Winter Lettuce-leaved Endive.—Those who grow Endive in quantity are often short of good material in the early spring. I note "J. C." at page 392 does not value the Moss Curled Endives

used, and is not the poor imperfect specimen often seen growing in our own gardens. It is not generally known Radishes can be stored like Beetroot; few roots are more easily cultivated. If sown at the end of July or early in August there is no lack of roots for winter, and in well-drained land they winter well in the open. Worms and slugs are fond of the roots, so it is advisable to store in as cool a place as possible, with plenty of soil, sand or fine ashes between each layer of roots to keep them crisp. For the purpose named it is best to rely upon the winter kinds, the best of which are the China Rose and Black Spanish. I prefer the former, it being the more delicate of the two. The Black Spanish keeps longer and will winter well with a little surface protection.—G. W. S.

A new winter Radish.—I am aware there is little demand for winter Radishes in this country,

but I am anxious to point out the value of the Radish to those who require salads, as in my opinion the more variety we have if good the better the salad. Salads have a great value at all seasons, and from midwinter to May there is a scarcity of what one may call good subjects to furnish the salad bowl, and my addition which may be grown at small cost is well worth noting. The variety in question, which was recently introduced into this country from Japan, is known as Sutton's Japanese. It is quite distinct, and certainly a novel variety, a long root, white, with serrated leaves, the quality superior to that of the Black Spanish, a good winter variety. Treated like the older winter kinds, it grows well; indeed it is a good companion to the China Rose, and well worth room in all gardens where salads are appreciated during the winter months.—S. H. B.

Tomato Duke of York.—I am pleased to see “A. W.’s” note on the above Tomato, as from the first I have added to its culture in these pages. At the date [the last week in November] I have good crops. I am rather surprised to note “A. W.’s” remarks as to its size. I fully agree with him as to its cropping qualities; indeed, I have found none to surpass it, but I cannot class it as medium-sized. During the summer I admit many of the fruits are only of medium size, but some attain a large size, and to prevent this it is an easy matter to clip off the first fruits which set. These usually with me come very large. At this season the fruits are rather above medium size, and are produced in abundance. My note was not intended to bring size into prominence, but to note the success of this variety in different localities as being a splendid addition to the already numerous types of Tomatoes. For early, mid-season, or late use it is equally valuable.—W. S. H.

A good autumn Lettuce.—At this season there is room for a good Lettuce of compact growth and not too tender to be injured by autumn frosts. The best form I have grown of late years is the Intermediate, this being less affected by rains and frosts than any others I have yet tried. I am not questioning the value of the hardy Cabbage varieties for winter use. My note refers to a period when there are none too many good Lettuces from October and later. At that season I have found the newer Intermediate a splendid variety, very hardy, and of good quality. As most growers of Lettuce are aware, the Brown types of Lettuce are the hardest. Intermediate may be described as a cross between the Black or Brown Cos and the hardy Cabbage varieties, and one of the most distinct forms I have seen. The plants, which are very dwarf, heart close to the soil, and are not readily affected by frost. In colour the leaves are not unlike those of the Bath Cos, but shorter and thicker. For use at this season or for lifting to provide the winter supply, this is a fine variety. Last summer I found it a fine variety in a soil fit to withstand heat and drought.—G. WYTHES.

TERCENARY OF THE POTATO.

The introduction by Sir Walter Raleigh 300 years ago of the tuber which was destined to become the staple food of the people of Ireland is to be celebrated in a befitting manner by a conference and exhibition, which will be held under the auspices of the Irish Gardeners’ Association in the Round Room, Rotunda, Dublin, on December 9 and 10. The conference will deal with the scientific as well as the practical sides of the question. Lectures will be given. The dreaded disease to which are attributable the misery and want which marked the terrible famine years of 1846-8, and which for so many years completely baffled scientists, is now no longer enveloped in doubt, but is well understood in all its bearings, and every point in connection with its cause, origin, development, and cure will be fully explained. The practical lectures to be given at the conference will embrace all the points connected with the cultivation of the Potato, and

must certainly be of more than passing importance to all who are interested in the agricultural prosperity of the country.

The exhibition of Potatoes will be the largest ever seen in Ireland, and will comprise specimens of every known variety of the popular esculent, each variety being duly accompanied with as much information as possible regarding soil, exposure, and general conditions of the districts in which it was grown.

The object of the committee is thus collecting such an enormous number of varieties of the Potato is one of extreme importance. It has been found that one great cause to which disease may be attributed is the persistency with which the Irish farmer clings to one particular stock of Potatoes, planting the same sort year after year. This was the primary cause of the failure of the crop and the consequent famine in 1847, a recurrence of which was only prevented in our own time by the introduction and distribution of the Champion. Now the Champion is rapidly becoming exhausted, as all the older varieties have before it, and the question naturally arises, “What is to succeed it?” True, we have any number of new varieties of excellent quality, but which of them is best suited for general cultivation in Ireland? We know that some of the varieties of recent introduction are excellent in some districts and utterly worthless in others, that some are good in dry and bad in wet seasons, and we have seen specimens of the same variety grown in different localities as unlike in appearance, flavour and texture as it was possible they could be.

One of the labours of the conference will be the selection of a really good Potato, having regard to every circumstance.

T. S.

The next spring any plants that have made some progress at the roots may have a little Sphagnum laid on the top of the crocks, this being added to as occasion requires until the plants require repotting, when of course they come under the description of established plants. These require very careful manipulation, for no Orchids are more easily injured by undue disturbance or careless handling. In all cases the pan should be carefully broken with a hammer, the roots, with the broken pieces adhering, being placed in the new ones. Plants in baskets are rather more difficult to manage, but here a little practice soon makes it possible to withdraw some of the rods and cut off others, so that the plant may be loosened without serious damage to a single root. Whether or not a larger receptacle is needed will depend on how the plant is progressing, the number and size of the roots and so forth, but it is better in all cases to be rather below than above the mark in size. In a pot too small the plant pushes roots out into the atmosphere, and although these do not perhaps quite take the place of those growing in the compost, yet they are aids to the plant. On the other hand, as described above, the roots in a pot or pan too large soon cease to be of any benefit. Nothing is required for compost but Sphagnum in a fresh living state, kept open by the free admixture of crocks and charcoal. Fix the plants firmly, finishing the line of Moss well above the rim and allowing the base of the leaves to just sit on this, not burying them, though it will do no harm if the green points of the Sphagnum as they grow push up an inch or so. If seen to be too vigorous as winter approaches, a little of it may be cut off or carefully pulled out.

In the temperature for Aerides, again, some growers go wrong, for many of these Orchids are found growing naturally in the higher mountainous regions of the tropics, where cool nights and fresh dewy mornings take the place of the sweltering heat of the valleys. From this we should take our cue, and while keeping up a moist and genial heat at midday, allow the temperature to drop naturally at night, this causing a restful and fresh state of the atmosphere, wherein the plants, so to speak, recuperate themselves after the heat of the day. No regular dry and wet season need be observed, but during the late autumn and winter much less water will be needed than during the summer, when the plants are in their fullest growth. At this time, owing to the rapid evaporation and absorption by the roots, the plants in small pots will require water sometimes as often as twice a day, while in winter this would last more than a week under ordinary circumstances. The roots themselves are the best guide to the water supply needed, for when these cease to forage for it, it is evident that very little is required. With regard to atmospheric moisture and light, these Orchids are to a certain extent like Phalaenopsis. They are sensitive to atmospheric changes too rapidly brought about, and therefore when drier and more airy conditions become necessary in autumn to consolidate the leaf tissue and prepare the plant for its winter rest, let the alteration be made as naturally and gradually as possible. The same in spring; let the temperature by day rise by degrees and increase the moisture in a like ratio, and when outside conditions of climate are unsuitable to free ventilation, endeavour by careful stoking and damping to prevent a harsh, dry state inside. The East India house is a little too warm for these small-growing Aerides, though if hung up close to a ventilator they will usually be satisfactory. They all do well

ORCHIDS.

SMALL-GROWING AERIDES.

A FAULT often found with the odontorhynch, virenia and similar species of this genus is that they take up too much room. This cannot be urged against such kinds as *A. affine*, *A. Wightianum*, and one or two others, for although some at least of them attain a height of a couple of feet or so in course of time, it is seldom indeed that such plants are seen, the growth being very slow, not to say uncertain. But neat little specimens may without much difficulty be grown, and would prove of interest where they are not known. Many of these plants have been imported at various times, but cultivators as a rule have not made much of them, and for various reasons. One is that they are usually placed in pots or other receptacles much too large for them, and although it seems almost incredible, it is not long since I saw a plant of *A. rosea* with only about a dozen leaves in a large cylindrical pot about 18 inches deep and half as much across. Such extreme cases as this need no comment. What is more often seen is plants of this section treated just the same in regard to root-room as the vigorous Fox-brush Aerides, *A. Fieldingi*. Not being so strongly rooted, they fail to reach the sides of pot or basket, and owing to insufficiency of air in the centre of the compost, the roots become weakened and soon die. A small pan about 4 inches across would be large enough for a medium-sized plant such as is sold at the sale-rooms or nurseries, and the more room the plants get beyond this the less chance they have of succeeding. Newly-imported plants should have no Moss or any other kind of compost the first year, but be simply placed in the pan or basket, this being filled up to the base of the leaves with clean crocks or potter’s ballast. Air filters readily through this material, and if kept nicely moist, the roots when emitted will soon find their way through them.

in company with *Vanda suavis* and similar kinds, and those who have tried such as *A. affinis* and its varieties, *A. roseum* or *A. Wightianum* in a strong heat and been unsuccessful, should give them another trial on the lines here briefly laid down. R.

CATTELYA DOLOSA.

This pretty little Cattleya must be either rare in its native habitat or collectors think it too small to trouble about, for it has, I think, been seldom imported. This is a pity, for though small it possesses considerable beauty. The pseudo-bulbs are small, and each bears a couple of oblong recurved leaves, while the flowers are usually each about a couple of inches across. The segments are broad and overlapping, the outer ones a pretty soft rose, the lip purple in front, yellow on the crest and having a white throat. The culture of all these small Cattleyas is somewhat similar, many cultivators making the mistake of treating them just the same as larger and stronger growing kinds. *C. dolosa* may be very well grown in small baskets or pans suspended from the roof. Stuck in the middle of a large pot with a quantity of peat and moss about the roots, it cannot thrive, but will always wear an unattractive appearance. As a matter of fact the roots are never so healthy as when gripping the sides of the small pans referred to. Another point where many of us err with these plants is in trying to get very large specimens. No matter how carefully these are potted, watered, and otherwise attended to, they will be less vigorous as the pots required to take them become larger. Some may be inclined to question the wisdom of the proceeding, but I have very frequently cut several of the older bulbs off plants of this kind rather than risk putting them into large pots. The rhizome need not if healthy be cut away, but if the bulbs are cut clean out just above it, it will be easy to dispose it around the rim or bend it underneath among the crocks, and the loss of the oldest bulb will not be felt by the plant. In appearance the plants are benefited, and certainly in health. Then in watering these plants great care must be taken not to go to extremes of either moisture or drought, for they have not the staying power, to speak, of their larger growing relatives and in consequence are more readily checked. These few points attended to and the growth kept to its proper season the species in question will thrive well in any ordinary Cattleya temperature. The growths push at various seasons, but endeavour in all cases where possible to get the young pseudo-bulb ripened well in autumn and keep it dormant until the increased light in spring makes it easy to keep up a congenial atmosphere consistent with a good supply of fresh air. *C. dolosa* is a Brazilian species, and was introduced in 1872.

H.

Cymbidium sinense.—The blossoms of this species are not particularly showy, but while they are open they emit a most delicate fragrance, not unlike that of *Boronia megastigma*. Like many other Orchids, it has to give place to shower kinds, but where it is cared for it may be grown in the cool house with *C. giganteum* and similar kinds. The sepals and petals are brownish yellow with stripes of purple, while the lip has a greenish tinge, with spots of magenta-crimson. *C. sinense* is one of the oldest Orchids in cultivation, it having been introduced in 1793.

Odontoglossum cheirophorum.—This elegant little species is now in bloom, the slender, closely-flowered spikes being much branched, and having a pleasing and very bright appearance. It is one of the most useful and popular of the small growing set, and should be grown by all who appreciate beautiful plants; whether large or small. It is most satisfactory in temperature kept rather higher than where *Odontoglossums* thrive, and may be suspended from the roof, both on account of the light and the liking this species has for a free circulation of air moving about it. An ordi-

nary mixture suits it well as compost, and pots or pans of moderate dimensions must be used. It comes from Ecuador, and was introduced in 1858.

Oncidium ornithorhynchum.—The pretty branching inflorescence of this little Oncid has a light and elegant effect among other Orchids. Unlike most *Oncidiuns*, yellow is conspicuously absent, the whole flower being a delicate rose-magenta. The perfume is sweet and lasting without being heavy, and the blossoms remain in good condition for about five weeks. Grown in medium-sized pots on the stage in the Cattleya house it will usually be satisfactory. The compost may consist of peat and Moss, kept in open condition with crocks or charcoal, and as

little that filtered through the grain of the wood, while during summer the blocks were frequently syringed. The crocks and Moss were kept moist all the year round. Wood is without doubt the best and most natural holding for these small growing Moth Orchids, and as long as this is kept sound the plants will be healthy. The difficulty is in removing them to a fresh piece when the old is decayed. Only a very little Moss should be placed about the roots; in fact if watering is carefully attended to the plants are quite as well on the bare blocks.—H. R.

Angrecum Eichlerianum.—I enclose a bloom of an Orchid, and would be obliged if you or some of your correspondents could give me some information about it. The plant was brought



Stone Pine (*Pinus pinea*) in the College Gardens, Dublin. (See p. 451.)

abundance of water is needed while growing, the drainage must be well seen to at potting time. It dislikes much sunlight and does best at the coolest end of the house. It is an old species, having been introduced from Mexico in 1826.

Phaiusia Lowii.—This is one of the most beautiful of all Orchids, but unfortunately not easy to grow. Flowers of it come from a correspondent who says he keeps it much drier during the winter months than any other of the Moth Orchids. It certainly will not thrive if kept too wet, but I am always afraid of the foliage of these sensitive plants and cannot advise too dry treatment. The best plants I have seen of *P. Lowii* were growing on teak blocks, the ends of these resting in large pans filled loosely with crocks and lightly surfaced with Moss. The only moisture these plants obtained during winter was the

from South Africa two years ago and has just bloomed for the first time. I named it *Trichoglottis fasciata*, but find I was wrong. The flowers are produced singly on the sides of the stem.—J. MALCOLM.

* * The bloom you send is that of a rather uncommon species from the west coast of Africa. The flowers are pretty and very distinct, but they are not sufficiently numerous, as a rule, to make a well-furnished plant. It likes plenty of heat and a light position, only shading from the brightest sunshine. The fact of the roots being emitted all along the stem makes it rather difficult to grow the plant strongly if potted in the ordinary way. I used to grow this species on a Birch pole, charred at the bottom and set in a large pot, the stems being firmly wired up this and a little Sphagnum placed under the ties.

THE GARDEN.

The pot was filled with charcoal and Moss to accommodate the lower tiers of roots. The pole, being freely air-pruned during the growing season, was covered with roots from top to bottom. This is the best way to grow it, but if you decide to rely on pots alone, be very careful to keep the atmosphere always moist and cover as many as possible of the aerial roots each time the plants are repotted. Sphagnum and charcoal will suffice for compost, and the free water supply required makes perfect drainage necessary.—H. R.

CHRYSANTHEMUMS.

RECENT VARIETIES.

REALLY good sorts of the present year have not been numerous, although the number of introductions has been as large as usual. It may be that our established kinds, especially of the Japanese class, are so excellent that improvement is slow. Still, I think one might desire more colour—I mean in the deeper reds and crimson; also in the bronze shades there is room for other kinds. The variety E. Molynoux has now been grown a considerable number of years, and it is still by far the best of the type. It is, however, none too sure in giving the handsome blooms which are generally admired. Whits and yellow are the shades too frequent in the novelties. But if quite new sorts of merit are somewhat scarce, there is ample choice among those really of last year, but which had not established themselves until this. Take, for example,

MODESTO.—This is a decided gain in colour, form, and substance. It is of American origin, having been raised by Messrs. N. Smith and Son, who sent over that most useful white, Niveum. The colour of Modesto is the richest possible shade of orange, tinted yellow. It has long, thick petals, which build up a perfectly-formed, loosely-incurved bloom of most excellent finish. The plant is of medium height and requires special culture to obtain good blossoms.

WESTERN KING.—This is a first-rate white, notable for its superb form and substance. It is not extra large, and the petals, which are somewhat pointed, decline to incurve. The growth is of moderate height. This sort is sure to become popular for any purpose.

SIMPLICITY.—This also is a white flower, and is of the most refined character. It has long, narrow, slightly drooping florets. The blooms come large, and its culture is easy.

SUNSTONE.—This has flowers of a striking shade of yellow, tinted buff and of exceptional substance. Some of the plants incurve, others reflex, thus giving us a distinct as well as handsome bloom.

NYANZA.—This is hardly a new variety, but it is yet too little known. This, like all the preceding, was raised by the firm named. The colour of Nyanza is rich dark crimson, with just a shade of old gold at the points of its petals; it is a large, full and splendid flower when seen at its best. Not only as a show flower, but for general culture this sort should be noted. The next three to be named are American raised Chrysanthemums; they are capital introductions.

OCEANA is a light yellow flower, of large size and very fine form. The petals are wide, and make up an incurving bloom of exceptional merit. The habit of the plant is dwarf and stumpy; it has, therefore, all the qualities of a first-class kind.

PRIDE OF MAFORD (syn. *Beauty of Teignmouth*).—In this we have the best sort of its colour—rich amaranth crimson. The silvery reverse is sometimes too much in evidence, but even then it is a full, handsome blossom. The growth is sturdy with ample foliage, and it is a sort of most easy culture.

AUSTRALIE.—This is a gigantic flower. Amaranth with silvery reverse is a combination of

colour somewhat common among Chrysanthemums, but in this case the latter shade, which is most seen, is most pleasing. For exhibition this sort is fine; the rather tall habit of growth may prevent its becoming otherwise popular.

JOHN NEVILLE is an English seedling of remarkable beauty; colour crimson, with golden reverse. It has large blooms of a drooping character.

GEORGE SEWARD has wide, but rather flat blossoms; colour a rich bronzy shade of yellow suffused red. This is a show flower.

A. H. WOOD.—In this we have a bloom of wonderful size, being a light yellow sport from Prairie League. It seems better than the type, and will no doubt be largely grown for exhibition.

CALVAT'S AUSTRALIAN GOLD.—This will doubtless be among the most useful of Chrysanthemums, it being so easy to grow; colour, light yellow. It has full, well-formed flowers of great size, when cultivated for such, but in the form of a natural bush plant it is not less striking, as the graceful blooms are borne in great profusion.

MME. GUSTAVE HENRY has large spreading blooms which incurve their florets at the points; colour creamy white. This is rather early and is a welcome addition. The habit of the plant is dwarf and vigorous.

PRIDE OF EXMOUTH.—This is a very large, well-built flower of blush tinted white shade. The formation is drooping. It is a good sort for any purpose.

M. HOSTE is a very large sort. The petals are long and wide; colour white with rose and yellow shading. It is a striking bloom with perhaps a suspicion of coarseness, the growth dwarf and sturdy.

MRS. J. LEWIS.—This appears to me the best new white flower of the year, and it is certain to be largely grown. There is especial richness in the petals; the form of the bloom, too, is graceful and the plant of easy growth.

Mrs. C. ORCHARD is a most taking bloom on account of its pretty shade of colour—light creamy-yellow. The flowers are large and nicely formed.

GOLDEN ELSIE is a capital addition. The type is creamy-white, and is most useful as a bush plant. The blossoms are not large, but are especially graceful, being composed of narrow, thread-like florets.

H. BISCOO-IRONSILO was much admired, the colour being quite a new one—beautiful light salmon-pink, with rather narrow florets, and unfolding with evenness and regularity. **Lady Randolph** was represented by very full flowers of an amaranth-crimson colour, with a silver reverse to the broad florets. **Mrs. Dorothea Shea** has probably never been seen in finer condition, the colour being of the finest scarlet, florets of great length, with upwards a bloom of immense proportions. This variety wants a very steady growth, not taking the crown buds too soon. Some fine plants of Nathan Smith's White were prominent, Mr. Davis pronouncing it to be a great improvement on W. G. Newitt. The blooms are of great depth, the florets being of good width and substance, slightly twisted and forked at the ends, the plant being about 5 feet high. **Mrs. Richard Jones**, another very large white bloom of great depth, with long florets of medium width, promises to be one of the finest novelties. The neatest and most promising white, however, was a variety named **Western King**, said to be a cross between **Niveum** and **The Queen**, and this was seen in grand form. It is a good type of the Japanese incurred, with broad incurving florets of much substance. This variety is an easy one to grow, but to obtain flowers of the greatest beauty, it should be grown on strong stems and late buds secured. **Emily Shrubber**, regarded here as great favour, is also a market variety it is highly esteemed. The smallest plants were producing fine flowers of the richest shade of pearl white with broad florets. Properly timed, these flowers should bear favourable comparison with those of **Mme. Thérèse Rey**. The most striking novelty was **Modesto**, a large and refined Japanese incurred, of the richest and deepest shade of yellow. This is a variety that will be invaluable to exhibitors. The florets, which are very long and prettily incurved, develop in whorl form. The flowers are very full and the habit is good. **Sunstone** is a rich buff-straw-coloured flower, beautiful and distinct, with long florets of good width and very promising. **Mrs. John Shrimpton** was seen in fine form, colour buff, with crimson cento. This is a nice even flower of useful size. **Lady Byron** is a grand flower of large dimensions, white, slightly tinted green in centre, with long and broad florets slightly incurving. The largest flower, and one which called forth special praise, was **Mrs. H. Weeks**. This is a bloom of a beautiful blush-white, with florets of great width, slightly incurving and hirsute. This should be in all collections, as it is quite different. There were many other good Japanese, such as **Mons. Fankoucke**, **Mons. G. S. P. Pallanza**, **Dorothy Seward**, **Mrs. Herman Kloss**, **Souf de Petite Amie**, **Mrs. W. B. Trafford**, **Mrs. J. Smeers** (grand white), and **Mme. Marie Hoste**, each giving evidence of high cultural skill. Among the new incurred we noticed **Duchesse of Fife**, which looks like making one of the largest white flowers of that section. The **Anemones** were in lovely condition, a large batch of this interesting type receiving attention, and being almost representative of the best known sorts. We noticed specially **Owen's Perfection**, **John Bunyan**, **Junon** (like an improved **Sœur Dorothea Souille**), and **Descartes**, the last in grand form, and from terminal buds very fine. A large collection is grown for market, a wise discrimination being made here.

Grapes and Tomatoes are also well done, quite a ton of the latter having been picked.

Chrysanthemum Miss Elsie Teichmann.

This sort has come well to the front during the present season. Being an English raised seedling, a special interest naturally attaches to so good a flower. The Japanese incurred section is enriched by its addition, the beauty of the florets, which are fairly broad and slightly pointed, with a graceful twist and curl to them, and of the most refined pearl white, stamp this variety as a desirable addition to the list of exhibition sorts.

CHRYSANTHEMUMS AT FRAMFIELD,
SUSSEX.

THE name of Mr. Norman Davis is so well known in the Chrysanthemum world, that a few notes as to the new establishment to which he removed early in the present year may be of interest to those who cultivate the flower. The new nursery is of considerable extent, almost 2 acres of it being covered with glass. The structures are of immense size, affording ample room to house the many thousands of Chrysanthemums that are grown. The situation of the nursery is a delightful one, sloping gently to the west. Three very long houses are filled with Chrysanthemums, which are representative of the different types of the flower. One large structure contained a fine collection of seedlings, and among these were some very promising novelties. The colours of some of these were most remarkable, and will give the exhibitor in the near future many shades of colour. What was also remarkable was, that many varieties which are recognised as pure white were developing blooms tinted rose and pink, while many flowers which have long been recognised as pure yellow had quite a bronzy appearance, though a fine suffusion of crimson passing through the yellow florets. This may be accounted for by the fact that the water here is largely charged with iron. Framfield being well within the ironstone district.

Most of the plants were not finally potted until August last, but this does not appear to have had any deterrent effect, as the flowers which were developing were of large size both in width and

For grouping the plant is exceedingly useful, as the growth is dwarf and sturdy, retaining its foliage well down to the pot.—B.

Chrysanthemum W. Wright.—This variety is probably one of the largest Japanese flowers at present in cultivation, and it appears to be very little known among exhibitors. In form it is a Japanese reflexed, with very long florets, of good width and much substance. The colour is best described as pale primrose, heavily flushed and tinted a pleasing shade of rose-pink, paling near to the centre. The plant is of easy culture, producing ideal blooms from cuttings propagated during April and May, and finally potted into 6-inch pots, allowing one flower to each plant. Grown in this orthodox fashion a late crown bud is absolutely necessary to secure blossoms of the best kind. Exhibitors should make a note of this useful sort. Height about 5 feet.—D.

Chrysanthemum Harold Wells.—This pretty flower has been frequently exhibited before the floral committee of the N.C.S., but so far has not been recognised as a proper type of incurved flower. It is a soft yellow sport from Sir Trevor Lawrence, this latter variety having been distributed as a Japanese incurved. Probably because of its parentage and also because the properties of the parent were not in the first place properly appreciated, the variety under notice is suffering. I have just seen two most delightful blooms, neatly finished, without artificial dressing, and with incurved florets of the truest type, beautifully rounded off at the tip. The time must come when its proper place will be recognised among those sorts belonging to the incurved section.—C. A. H.

SHORT NOTES.—CHRYSANTEMUMS.

Chrysanthemum M. Demay Taillandier.—The wonder is that this sort has not found more favour. It is a Japanese variety of massive build, with broad florets, curving and incurving. Inside colour is best described as claret-red, with a reverse of light bronze.—C. A. H.

Chrysanthemum Vicomte Roger de Chelles.—M. Ernest Calvat in this variety has sent us a flower of considerable promise. The blooms are large and deep, with florets of medium length and width, and forked at the ends. With age the florets prettily reflex, showing up its colour-rich bronzy-yellow, striped reddish crimson—the great advantage.

Chrysanthemum Dr. H. Bond.—The flowers of this charming novelty are not of the enormous size that appears to find most favour now, yet they are sufficiently large to render them of value for exhibition or as a plant for the conservatory. The blooms are most refined, with long tubular florets, somewhat resembling those seen in Gloriosa, but of the richest shade of canary-yellow. The florets twist and curl in a most graceful manner.—B.

Chrysanthemum Owen Thomas.—This variety has not come up to expectations this season, but should not be disregarded, and may find its place on that account. Of the Japanese incurved type it is a pretty example, and in form something in the way of Stansted White. The florets are long, incurving at the tips, and the colour is yellow, deepening to the centre of the flower. This variety is a trifle late in perfecting its blooms which are produced on plants of a remarkably dwarf habit.—C.

Chrysanthemum Nivium.—Apart from its value as an exhibition variety, Nivium is an excellent kind to grow for general purposes, as the habit is so good, and it gives excellent results growing in small pots. For house decoration its value is beyond all question, its large snow-white blooms being very tall, when mixed with other varieties or when used with other subjects for filling large baskets with plants in front halls. I intend growing it largely for this purpose another season.—A. W.

This white variety is most useful for the supply of late blooms. By striking the cuttings at various times in the spring one may have successive batches to bloom from early summer to Christmas. It bears its blooms in stiff foot-stalks, and these being long, one may cut the single flowers apart from the trusses and have good material for crosses and such like.—N.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

DECEMBER 1, 2 AND 3.

The early winter exhibition, held under the auspices of the above society at the Royal Aquarium, Westminster, and which opened on Tuesday last, must be pronounced a great success, the anticipations of the supporters of the December show being far exceeded. The display made in almost every class was distinctly an advance on any previous effort. Owing to the ground-floor space being occupied, the exhibits were staged in the two galleries upstairs, where ample accommodation was made for every exhibitor, and also where the general public could view the show with comfort and also under a fairly good light. There were in all sixteen classes in which Chrysanthemums were asked for, thirteen of these being open and the remainder confined exclusively to novelties. Those who also six classes provided for miscellaneous plants, in which Cyclamens and Primulas were most conspicuous. The miscellaneous and non-competitive exhibits were not particularly numerous, yet sufficiently so to lend additional attractiveness to the exhibition, and thus heading one of the best features of the show was to be seen.

In the open classes for cut blooms the display was of a most exceptional kind, and was chiefly noticeable for its large extent and the keen rivalry which it produced. It was also pleasing to notice that the blooms staged were very nice and fresh, while the colour in most instances was very bright and good. In the premier class for twenty-four Japanese blooms the stand of Mr. W. Messenger contained specimens that would bear favourable comparison with many of those exhibited at the November show. That good quality must have existed is proved by the fact that in this class there were no less than eighteen exhibits placed upon the table. The bunches of cut blooms were the finest that we have seen, the twenty-four which secured premier honours for Mr. Norman Davis, containing flowers remarkable for their freshness and grand colour. The free and unrestrained manner in which they were set up also deserves note. Probably such a fine and varied collection of cut blooms has never been seen in late in the season as a show before. There was a splendid collection of cut tulips shown by Mr. W. Neville being exceedingly well finished and beautifully fresh and clean. Single-flowered sorts were well shown, the large flowers now being separated from the smaller ones—a distinct advantage in every way. The jubilee edition of the catalogue of the N.C.S. was probably of much assistance to exhibitors, enabling them easily to determine to which class the respective blooms belonged. Blooms in vases were represented by several charming exhibits, and proved so conclusively the value of large flowers when associated with suitable foliage. The advent of Christmas was forcibly illustrated by the eight exhibits of baskets of berries. A capital variety in the berries, autumnal and winter foliage, in which the Holly played a prominent part, was most conspicuous. The table of flowering, berried and fine foliated plants set up by Mr. A. Newell was a good one, and a pleasing variation in the exhibition. It was surprising to find the exhibition was not more largely patronised. Although there were many varieties of Chrysanthemums exhibited which we are accustomed to see at the earlier shows, there were also a large number of later sorts to be seen. Blooms of certain varieties which are often seen in indifferent form at the earlier shows were on this occasion illustrated by those of a typical character. The prospect to make the corresponding show in 1897 a week later will find favour with most admirers of the flower, as by this arrangement there is greater possibility of securing a representation of the best of the late varieties. Altogether, the executive of the N.C.S. have every reason to be pleased with the result of the December show,

proving conclusively the value of an opportunity for illustrating the usefulness of the Chrysanthemum late in the season.

CUT BLOOMS (Open).

In the premier class for twenty-four Japanese Chrysanthemums, not in less than eighteen varieties and not more than two of a variety, there were no less than eighteen competitors, the whole length of one table being required to accommodate them. The first prize was won by Mr. W. Messenger, gardener to Mr. C. H. Berners, Woolverstone Park, Ipswich, with a grand lot of blooms. His best varieties were Mme. Carnot, International, Waban, Etoile de Lyon, M. Chenon de Léché, Violetta, Golden Gate, Miss Maggie Blenkiron, Beauty of Castlewood, Silver King and a pretty bloom of Duchess of York. Second honours deservedly went to Mr. W. Slogrove, gardener to Mrs. Crawford, Gatton, Reigate, for a nice, clean and even lot of flowers. A magnificent example of Mme. Carnot was in this collection, one of the special merits being G. C. Schwabe, James Moore, J. Moncherotie and T. Wilkins. There were six entries for twenty-four bunches of Chrysanthemums, any varieties. Mr. Norman Davis, The Vineries, Framfield, Sussex, took highest honours for a remarkably fine lot arranged in a free and easy manner, the flowers beautifully fresh, of good colour and large size. The most noticeable sorts were recent novelties, and included Sunstone, a pretty golden buff suffused crimson Japanese; Matthew Hodgson, the brightest crimson yet seen; Mrs. H. Weeks, lovely blush with grand florets, of large Japanese incurved form; Stressa, a lovely yellow variety; Admiral Avellan, Philadelphia, Mrs. Hermann Kloss, a lovely bronzy-orange; Nivium and the new Japanese incurved white, Weston King. Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich, was a very creditable second with a bright and even lot. The varieties worthy of notice were M. E. Montigny, Mrs. Dr. Ward, M. Gruyer, Mme. Ad. Chatin, a beautiful Japanese incurved of the pure white, and Mme. Ad. Moulin, also a white, but of spreading form. Eighteen competitors put in an appearance for twelve Japanese distinct, and the judges must have found their task by no means an easy one. Premier honours eventually rested with Mr. Henry Perkins, gardener to the Hon. F. D. Smith, Greenlands, Heydon-on-Thames, for a very fine lot of blooms. All his flowers were good; the best however were Miss Carnot, Mrs. H. Weeks, Graphic, General Roberts, W. Wright, Nivium, and a grand white, Mrs. R. Jones. The second prize fell to Mr. W. Messenger, with even, though not over-large flowers, Etoile de Lyon, Rose Wynne, Duchess of York, and Mme. Carnot being among his best. For six Japanese distinct, there were also eighteen exhibitors, Mr. Henry Perkins again taking the leading position with a fine stand of flowers. For small growers the names of his varieties may be useful; they were Mme. Carnot, Graphic, Waban, Mutual Friend, Mrs. R. Jones, and a superb example of Goldfin Gate. A good second was found in Mr. C. Payne, gardener to Mr. C. J. Whittington, Elmburst, Bickley Park, Kent, three blooms in his exhibit being worthy of special mention. These were Mons. Chenon de Léché, one of the prettiest and most striking flowers we have seen; Mutual Friend and a grand specimen of Etoile de Lyon. There were twelve lots in the class for twelve incurved, in no less than six varieties, and not more than two blooms of one variety. This was eventually secured by Mr. W. Neville, gardener to Mr. F. W. Flight, Corotics, Twyford Winchester. His flowers were beautifully even and nicely finished, and the best exhibit ever staged at any previous December show. C. H. Curtis was in splendid condition, as also were Mrs. R. C. Kingston, W. Tannington, Major Bonapart, King of Orange, and Bonnie Dundee. Mr. H. Butcher, gardener to Mr. C. J. Buss, Lodge House, Smeeth, Ashford, was a good second, his best flowers being Mrs. R. C. Kingston, Mrs. F. W. Flight, Bonnie Dundee, and a new variety, Miss Phyllis Fowler, of a pleasing prim-

rose-yellow colour and of large size. For six incurved, distinct, there were thirteen competitors, and Mr. Neville was again placed first, his blooms of C. H. Curtis and W. Tunstall being largely followed. Mr. Henry Perkins was a good second. Mrs. R. C. Kingston, Mrs. J. Gardiner, and D. B. Crane being his best flowers. Seven competitors came forward in the class for twelve bunches Japanese blooms, not less than six varieties, three blooms of each variety only in a bunch. Mr. R. C. Notcutt secured premier honours with a highly meritorious exhibit; the flowers were large and fresh; Silver King, Matthew Hodgson, Louise, Mrs. C. E. Shea, Le Rhône, Mme. Carnot, and R. Owen were the best. A very close second was found in Mr. Norman Davis, who had a grand exhibit in which were blooms of large size and rich colour. His flowers of Stressa, John Seward, Mrs. Hermann Kloss, and Etoile de Lyon were ideal specimens. The smaller class for six bunches Japanese, three blooms of one variety only, distinct, was well contested, fourteen competitors entering the list. A beautiful exhibit from Mr. W. Slogrove obtained for him the leading position, Duchess of York, Mlle. Thérèse Roy, Mrs. Higginbotham, and Golden Gate deserving special recognition. Mr. Norman Davis was a close second. The competition in the classes for single-flowered varieties was not so keen as might have been expected. For twelve bunches of large-flowered single varieties three blooms in each bunch, and not less than six varieties, Mr. G. W. Forbes, gardener to Mr. D. Nicola, Regent House, Surbiton, was first with a wonderfully good lot; Miss Brown, Yellow Giant, Parity, Rudbeckia, Alphonso, Admiral Sir Thomas Symonds, and Tuscole were his best flowers. Mr. W. C. Pagram, gardener to Mr. J. Courtenay, The Whin, Weybridge, was a creditable second, his flowers of Rudbeckia and Guernsey Sunset being very fine. Mr. G. W. Forbes was again first for twelve bunches of small-flowered single varieties in not less than six sorts, and three blooms in each bunch. His flowers of Mrs. D. B. Crane, Nellie, Norah, Nellie Robinson, Mary Anderson, Scarlet Gem, and Sarah Wells were charming, and illustrated the decorative value of these small flowers. Mr. Pagram was a good second, a beautiful bunch of Terra-cotta being particularly striking in colour. For six bunches large-flowered singles Mr. A. Felgate, jun., Horsham, was first with a very nice lot, Golden Star, Captain Felgate, Parity, and Yellow Giant being his best flowers. Mr. James Agate, Havant, was a close second, his bunch of Harold Stallard being specially good. Six bunches of small-flowered singles made a pretty display, Mr. James Agate being a good first; Miss Ada Holden, White Perfection, and Patti Fenford were the others. The second prize was awarded to Mr. A. Felgate, jun., for a nice even lot, most of which were seedlings. The class for a basket of autumn berries and fruit brought forward eight competitors, and a very unique display was the result. Not one of them was poor, the first prize falling to the lot of Mr. W. Green, jun., Harrow Wood, Essex, for a nice light arrangement and thoroughly representative. Holly, Berberis, Privet, and other berries, besides pretty pieces of autumn-tinted Strawberry foliage, Ivy, golden Euonymus, and several other subjects were pleasingly associated. Mr. Thos Osman, The Gardens, Ottershaw Park, Chertsey, was a good second with a charming arrangement, his free use of Berberis Aquifolium and grasses assisting very materially.

AMATEURS.

For six Japanese blooms, not less than three varieties, Mr. H. A. Needs, Horrell, Woking, was placed first with a good stand. There were twelve exhibitors, and this lot stood out conspicuously from the rest. He had four large blooms of Mutual Friend and one each of Phœbus and Niveum. Mr. F. Durrant, Ware, Herts, was awarded second prize for a nice lot of blooms, Mrs. R. B. Martin and Mrs. W. H. Lee being his best. A class for one large vase of Chrysanthemums with any kind of foliage, grasses, and berries

brought out five competitors. The first prize was easily secured by Mr. D. B. Crane, Highgate, N., with a noble arrangement of large Chrysanthemum blooms prettily finished with smaller flowers of the pompon and the thread-petalated section. A rich blending of colour in crimson, orange, and yellow was effected. Berries, autumnal foliage, Croton leaves, and grasses, with long, overhanging growths of Asparagus and Smilax completed a very lively stand. Mr. W. Green, jun., was placed second, with a pleasing arrangement of yellow and pink Chrysanthemums.

MISCELLANEOUS PLANTS.

The collection of Cyclamens in pots was represented by splendid exhibits. That securing the premier award coming from Mr. W. Orpwood, Andover Nursery, was a magnificent display. The plants were in a healthy and fresh condition, the blossoms large. White, rose, tussie, and other shades were each displayed and called for special notice. The second prize was awarded to Mr. A. G. Bowles, Church Road Nursery, Hanwell, for a very pretty table of Cyclamens interspersed with grasses. In the class from which nurseries were excluded for twelve Cyclamens in pots there was only one entry, but this was a very fine exhibit and well merited the first prize which was awarded to it. This came from Mr. W. Frost, 9, Ashley Road, Godalming, Ashford, who showed his plants splendidly. For a collection of Primula japonica, nine lots were staged by Mr. James Gibson, gardener to Mr. E. H. Waite, Devonhurst, Chiswick, who was first. The plants were freely flowered and there was a good variety in colour. To enhance the beauty of the exhibit, small Crotons, Pandanus Veitchii, Isoplexis gracilis, Aparagusa and Cocos Weddelliana were freely used. Mr. J. P. Macgregor, gardener to Dowager Lady Hay, North House, Putney Hill, was second with a nice fresh lot, but arranged in a rather formal manner. For twelve Primula siensis there was a good display, the best lot coming from Mr. James Gibson, with a fairly good variety in colour and freely-flowered plants. A good second was found in Mr. R. Bassil, gardener to Mr. D. H. Evans, Shooter Hill House, Pangbourne, Bedf., for a freely-flowered lot of plants, arranged in a pleasing manner, Panicum variegatum overhanging the sides of the table in a graceful manner. Only one exhibition was forthcoming in the class for twelve double Primula sinensis. First prize, however, was awarded to Mr. J. Sandford, gardener to Mr. G. W. Wright-Ingle, Wood House, North Finchley. For a large table containing a collection of flowering, berried and fine-foliated plants arranged for effect, a handsome exhibit was put up by Mr. A. Newell, gardener to Sir Edwin Saunders, Fairlop, Walthamstow. A free use of highly-coloured Crotons, Pandanus, Coco Weddelliana, Roman Hyacinth, Bourvardia and Chrysanthemums combined to make up a splendid display. Mr. W. Howe, gardener to Mr. Henry Ta'e, Park Hill, Streatham, was awarded second prize with a somewhat poor arrangement.

MISCELLANEOUS AND TRADE EXHIBITS.

The place of honour must undoubtedly be given to Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E. It covered an enormous space, and the arrangement of the plants evinced the best artistic taste. As a background there were Palms and fine-foliated plants. The Chrysanthemums were disposed of in a very pleasing manner, choice Crotons and C. W. Weddelliana enhancing the finish. A nice batch of red sport from Lord Brooke and named Mrs. John Cooper promises to be a decided acquisition to the Japanese incurred. The Egyptian, a large incurved, was seen in good form, and a plant of W. Wright's interesting Japanese, was much admired. A gold medal was deservedly awarded to this exhibit. Silver-gilt medals were awarded to Messrs. H. Cannell and Sons, Swanley, for a magnificent exhibit of cut Chrysanthemums and about fifty superb bunches of zonal Pelargoniums in all shades of colour; to Messrs. J. Laing and Sons, Forest Hill, S.E. for a collection of Apples and Pears, and to Mr. W. Wells, Redhill, for a nice collection of cut Chry-

santhemums. Silver medals were given to Mr. W. Nevillo for two dozen beautifully incurved flowers, to Messrs. J. Poed and Sons for their assortment of Apples and Pears, and to Mr. T. Tullett, gardener to Mr. G. Alexander, Warley Lodge, Brentwood, Essex, for four vases of Chrysanthemums arranged for effect. A bronze medal was awarded to Miss Elizabethbrook, The Briars, Fawkham, for a pretty basket of Chrysanthemum Snowdrop and pink Campanulas. A silver gilt medal was awarded to Mr. C. J. Waite for an extensive collection of vegetables, showing good culture, his Intermediate Carrots being very fine. Mr. Norman Davis staged some charming decorative Chrysanthemums, Tuxedo, a rich orange, and Framfield Pink standing out distinctly. The One and All Manure Co., Lt., Lawes' Chemical Manure Co., Lt., and the Isthemic Guano Co. each had a stand illustrating their respective specialties.

On Monday, the 23rd last, a meeting of the committee was held at Arderton's Hotel, Fleet Street, Mr. B. Wynne being in the chair. After the minutes of the previous meeting had been read and confirmed and the usual preliminary business arising out of the correspondence had been disposed of, the secretary gave some interesting statistics concerning the Jubilee show, from which we learn that nearly half a million of tabling was required. The sixty entries in the class for incurred and the same class for Japanese brought eleven and twelve competitors respectively, while in Mr. Jones' class for cut blooms of twenty-four Japanese there were thirty-seven entries, and of these thirty-three actually staged exhibits. Grapes were shown in 234 bunches, and the fruit, Peaches, &c., required the very considerable number of 1200 plates. Mr. Dein took the opportunity of thanking the gardening press for the assistance rendered.

Mr. Harman Payne was called upon to report on the recent visit of the N.C.S. delegates to the foreign shows, and briefly gave an interim report, which he promised to elaborate by a more formal one at the next meeting, having only just returned. He reported on the society's exhibit at the Ghent show, which was contributed by several members of the society and which won a silver-gilt medal. The deputation visited other displays at Brussels, Paris, and Amiens, and he spoke in high terms of the cordial reception the delegates had everywhere met with. Differences between English and foreign shows abounded, especially in the setting up of cut blooms, but questions such as these would be duly dealt with. Mr. Thos. Bevan also made some remarks on the flattering reception and the cordial manner in which the delegation participated.

The shows for 1897 are recommended as follows: October 12, 13, 14; November 9, 10, and 11; December 7, 8, and 9. The question of a September show is to be left in abeyance for the present.

A new cup and tubo was exhibited by Mr. Waterer, and this was referred to the floral committee for their consideration. New members, numbering twenty-one in all, were elected, and the meeting closed about 9 o'clock after a somewhat full agenda.

A meeting of the floral committee of this society was held at the Royal Aquarium, Westminster, on November 25, Mr. Thos. Bevan occupying the chair. Exhibits were somewhat few in number, but of fair average quality.

First-class certificates were awarded to—
CHRYSANTHEMUM C. W. RICHARDSON.—A noble specimen of large dimensions, very full and double, with long curly twisted and intermingling florets, rather narrow and grooved, colour pure pale yellow with a reverse of wavy yellow—quite an acquisition. From Mr. W. H. Lee, of Trent Park Gardens.

CHRYSANTHEMUM GEN. OF EARLSWOOD.—An appropriate name for a charming little neat pompon Anemone. It is of medium size and very perfect in form. The disc is of good form and

yellow, while the ray florets are flat, stiff, and of medium width, colour lilac-mauve. A novelty, shown by Mr. W. Wells, of Earswood.

Several other novelties were submitted, the best being by Louis D. Black, a rather rough-looking incurved bloom, colour orange-yellow. Lady Northcote, a large white lily-flowered. The Egyptian, a big solid-looking Japanese incurred with broad grooved florets, colour purple-chestnut, and two incurred almost identical in appearance, viz., Thomas Lockie and General Maurice. Others, such as Bynum Schiltz, Esther, Olive Ocle, Melina Duchanel, were attractive and worthy of note.

The annual dinner of this society was held on November 26 at Anderton's Hotel, Fleet Street, Mr. Fowler, Mayor of Taunton, in the chair. This dinner is distinct from the jubilee celebration held at the Hotel Metropole recently, when the president of the society, Sir Edwin Saunders, occupied the chair. The dinner held last week was of special importance, occurring in the jubilee year of the society. We have never seen greater enthusiasm shown before at a public dinner when the leading prize-winners received their awards gained at the past jubilee show at the Royal Aquarium.

Amongst those present were M. Martinet, Editor of *Le Jardin*, Messrs. Harman Payne, T. W. Sanders, B. Wynne, C. Orchard, W. Weeks, H. J. Jones, D. B. Crane, T. Bevan, Richard Dean, secretary, J. W. Wilkinson, secretary of the Royal Aquarium, and many others.

The usual loyal toast having been proposed by the chairman, the toast of the "National Chrysanthemum Society" was then proposed by Mr. Fowler, who said that the society deserved its present high position and its scheme was modelled for provincial friends to copy, as so many varieties were made by the smaller societies in the way their prize lists were compiled. Special mention was made of the great show recently held at the Royal Aquarium and of the sum held the society had obtained upon those who had the welfare of the flower at heart. He said that 182 new members had been added to the list since January last, and twenty-six societies admitted into affiliation. The local committees were praised for the careful work they accomplished in regard to the new varieties. Mr. P. Waterer proposed the "Affiliated Societies," which he said were of great benefit to the parent body and contributed largely to the jubilee fund. Mr. Waterer said that the president of the Scottish Society had telephoned that he was in thorough sympathy with the society, an announcement that gave rise to much applause. Mr. Waterer mentioned, as showing the popularity of the society, that 33,000 persons had passed the gate at the recent Scotch exhibition, and that a sum of £1100 had been received. This toast was responded to by Mr. W. Weeks, secretary of the Bromley Society, which contributed the largest amount to the jubilee fund. He said he would like to see more competition in the classes for affiliated societies provided at the November show, and made reference also to the visit of Mr. Payne, Mr. Jones and Mr. Bevan as deputies of the society to the Paris exhibition of Chrysanthemums.

At this point the medals, cups and so forth offered as prizes at the last jubilee show were presented by the chairman, the re-organised Portsmouth Society receiving for the year the National challenge trophy, a creditable gain considering that this is one of the quite newly-formed societies. Mr. Berry received it on behalf of the Portsmouth Society. Mr. Mease, gardener to Mr. Tait, who won the first prize in both the classes for sixty Japanese flowers and the same number of incurred (a jubilee class), was received with great favour, also that well known plant grower, Mr. Donald.

Then occurred a most interesting presentation by M. Martinet, who had come over from Paris late afternoon for the express purpose of giving to Mr. Payne, in the name of the National Horticultural Society of France, the *Mérite d'Agricole*

awarded to him by the French Government. M. Martinet, in an excellent speech in English, referred to the work of Mr. Payne for the society, and said he was well known amongst French cultivators for the interest he has always shown in the Chrysanthemum, and referred to his late visit to Paris in the name of the society. M. Martinet was splendidly received and the "Marseillaise" was sung. Mr. Payne suitably replied.

The toast of "The Donors of Special Prizes" was proposed by Mr. T. W. Sanders and seconded by Mr. Jones. Mr. Wynne proposed "The Chairman," and the toast was received with much enthusiasm, as Mr. Fowler is interested largely in the culture of the Chrysanthemum.

Mr. C. Orchard proposed the toast of "The President, Secretary (Mr. Dean), and other Officers" and Mr. T. Bevan "The Press," which was responded to by Mr. E. T. Cook.

THE NATIONAL DAHLIA SOCIETY.

The annual meeting of this society took place at the Horticultural Club, Hotel Windsor, on the 24th ult. Mr. E. Mawley (the chairman of the committee) presiding over a good attendance of growers from various parts of the country. The annual report, which was read by Mr. T. W. Girdlestone (the hon. sec.), stated that if the show Dahlias were not so numerous as usual at the exhibition at the Crystal Palace last September, it was not owing to any diminution of zeal on the part of the growers, but to the abnormal nature of the season. An almost sunless spring and summer prevented the plants from making their natural growth at the usual time; and the rainy time setting in just when the plants should have bloomed, they started into growth and bloomed so late, that some of the leading cultivators were unable to exhibit. The Cactus varieties were, however, especially good, and probably never before in better character. The class for a vase or espalier showing the decorative value of the Dahlia was a welcome addition to the show, but the classes for cottage and amateurs, which were intended to assist in bringing recruits to the ranks of the Dahlia exhibitors, did not prove so satisfactory as desired. They would again find in the schedule of prizes, but before now, especially for those who had never before won a prize at the society's exhibitions. The report also set forth the names of the varieties awarded certificates of merit at the last exhibition, and expressed the thanks of the committee to the donors of special prizes, which had proved very helpful. The financial statement set forth that the receipts from all sources, including the balance of £4 13s. 5d. from last year, was £142 19s. 1d., and the entire expenditure, including the payment of prizes, was £134 8s. 9d., leaving a balance of £8 10s. 4d. in favour of the treasurer. As a portion of the report, the list of strict Cactus Dahlias given in the schedule was revised. Beauty of Eynsford, Countess of Radnor, Henry Cannell, Kynerith, Lady Henry Grosvenor, and Viscountess Folkestone were struck out and the following new varieties, certified by the society in September last, added, viz., Iona, Mrs. Gordon Sloane, Mrs. Leopold Seymour, Starfish, Keynes' White, Cycle, Fantasy, and Charlie Woodward.

It was resolved now there are as many first-class Cactus Dahlias, to drop the term decorative, and require that the only Cactus varieties be exhibited in the society's classes. It was also resolved to have a class for a vase of twelve blooms of Cactus Dahlias shown with stems, and also one for an espalier of Dahlia blooms arranged for effect with six kinds of foliage, and to the classes for six blooms of one variety two additional ones were added, one for white, the other for red. The report and financial statement were then adopted. A resolution was unanimously passed requesting the Royal Horticultural Society to arrange for a meeting of its floral committee about the middle of September, as at that time there are many new varieties the raisers desired to submit to some competent tribunal, and also one to the effect that, subject

to the approval of the authorities of the Crystal Palace, the annual exhibition should be held on September 3 and 4. It was also resolved that in the case of seedling shown for certificates, they should be on stems 9 inches in length with foliage as grown, the president, the vice-president, Mr. William Robinson, being elected in the place of Mr. George Gordon, who retires from the committee. Mr. E. Mawley as hon. treasurer and Mr. T. W. Girdlestone, hon. secretary, were re-elected, and the proceedings closed with a hearty vote of thanks to the treasurer and secretary.

National Amateur Gardeners' Association.—At the monthly meeting of this association, held on Tuesday last at the Memorial Hall, Farringdon Street, E.C., a lecture was given by Mr. E. T. Cook on "Some Ways of making Gardens Beautiful," illustrated with many limelight views of groups and masses of hardy perennials. The chair was taken by Mr. T. W. Sanders (the president), and there was a large company present. It was announced that in future the meetings of the association would be held at Winchester House, City.

PUBLIC GARDENS.

An open space for Pentonville.—The formal transfer has been made of the churchyard of St. James's, Pentonville, to the vicar and churchwardens of the parish of Clerkenwell for the purpose of the same being laid out as a public recreation ground.

An open space for Islington.—The Court of Common Council, at a recent meeting, approved, after a long discussion, a report of the Cattle Markets Committee, offering to sell to the Islington Vestry a certain piece of land adjoining the Metropolitan Cattle Market for the purposes of an open space for the sum of £16,000. The Vestry has urged that the price should be £10,000.

Public park for Dublin.—Lord Ardilaun, Lord Iveagh, and Mr. James T. Power have made arrangements for laying out and maintaining a public park near St. Patrick's Cathedral, one of the most crowded districts in the city. Already £10,000 has been expended, and it is intended to spend an additional £20,000 in acquiring the necessary property and in laying out the park.

The weather in West Herts.—A very cold week. During the night preceding the 30th ult. the exposed thermometer showed 17° of frost, or as great cold as at any time during the whole of last winter. The past month was the coldest November for nine years. It was also remarkably dry, the total rainfall being 1½ inches below the average for the month, and less than in any November since 1879. No rain may be sad to have fallen during the latter half of it, the amounts then registered being so insignificant. My humidity records here extend back to 1886, but in no previous November has the air been so dry as it was last month. The sun shone on an average for exactly three hours a day, whereas in the brightest of the preceding ten Novembers the highest mean daily record was 2½ hours.—E. M., Berkhamsted.

Names of plants.—*Fritz*.—Adiantum macrophyllum. —*F. G. Stone*.—Ferns, *a*, Adiantum *lappa*; *b*, Adiantum *capillus-Veneris*; *c*, Adiantum *multidivisum*.—*D. Mc. D.*.—Cissus *discolor*.

Names of fruit.—*Dr. Wright*.—Apples, 1, Ribston; 2, Lane's Pineapple Alcest. —*J. W.*.—Pear Pitmaston Duchess.

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No. 1308. SATURDAY, December 12, 1896. Vol. L.

"This is an Art
Which does mend Nature; change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

CHRYSANthemums.

INCURVED CHRYSANthemums.

I HAVE come across several cases lately which appear to me to bear out the truth of a remark that has often been seen in the pages of THE GARDEN, that the incurved Chrysanthemums are much overgrown, and hence they are not exhibited in such perfect form as in years gone by. It was a pleasure to meet with stocks known as the "Tecks" in such perfect condition as at Alderbrook, Cranleigh, Surrey. The well known variety Princess of Teck has given sports, and these in turn have also thrown branches of other colours, until there is now a recognised "Teck" family. Besides the type, we have Hero of Stoke Newington, Mrs. Norman Davis, Lady Dorothy, Chas. Gibson and Lord Eversley. When in condition they have flowers of almost perfect globe shape and are much admired, but are seldom seen in that desirable state. The blossoms at Alderbrook are the finest I have seen for many a day, and the comparative smallness of the plants indicated that they had not been overgrown. I was informed that the cuttings were put in on January 29 last; their season had, therefore, been short. The plants were growing in pots 8 inches in diameter, and the leaves were small, but leathery in texture. The foliage, too, was similar, and the plants were barely 4 feet in height. A grower of Chrysanthemums who was with me expressed his surprise at the splendid results of these plants, because he had seen them a couple of months previously and remarked how weak they appeared. Here then, I think, is a lesson.

The finest bloom of the most perfect of all incurved varieties (Lord Alcester) I have seen this year was in a small garden in a remote village, where the gardener excused himself by the remark that he had too much to do and was unable to pay any special attention to Chrysanthemums. But here such incurved kinds as Lord Alcester, Golden Empress of India, Nil Desperandum, Lord Wolesey, Miss M. A. Haggas and a few others were very fine. And so one might go on. An authority thinks that the constitution of the "Queens" for instance, is gone, and that we cannot hope to see them in such fine form as they were grown some years ago. This appears strange to me. The variety Queen of England was raised about 1853, and not half a dozen years back was exhibited in what may be called perfect form. Now, if the constitution of that variety is ruined, why did not this happen during the long term of years that had gone before? My opinion is that the decadence of the best types of incurved Chrysanthemums is caused by the plants being overfed, overgrown, and in the place of them we have the semi-Japanese sorts Globe d'Or, J. Agate, Chas. H. Curtis, W. Tunnington, and the like filling the more prominent positions in the prize stands.

Some comment has been caused recently because the floral committee of the National Chrysanthemum Society drew the line and refused to recognise Miss Louise D. Black as an incurved, and also one named Duchess of Fife. I think that body is right. There are a number of the Japanese sorts which might, with a little "dressing," be equally as admirable. Louise, Lord Brooke, and Mme. Ad. Chatenay are some that occur to me.

There is room, of course, for more variety, more colour in the incurved type of Chrysanthemum, but let us have the true ones. I feel confident that if less attention were given to big, coarse growth we should see the good old ones better grown than they are at present, and the number of those who like them considerably increased, instead of, as is now the case, persons giving them up because they fail to succeed in their culture. H. S.

Chrysanthemum Mme. Carnot.—This white variety is considered the finest of all show kinds, but I saw it in one instance this year grown as a large specimen plant. This specimen had not been so rigidly trained as one mostly sees, and consequently the light arrangement of the growth suited the long graceful florets of the sort. I should think the plant had rather over three dozen flowers; fine blooms, too.—H. S.

Chrysanthemum Modesto.—When really well grown this variety as an exhibition bloom is hard to beat in colour, size, and depth being of a high order of merit. With its new introduction, Phœbus, Sunflower, Edith Tabor, Duchesses of Wellington, and many Pankoukes, exhibitors should have no difficulty in providing the rich yellow so needful for effect in a stand of cut blooms.—S. W. F., South Devon.

A good plan of striking Chrysanthemum cuttings.—Those who can command a frame where a little fire heat may be turned on in severe frosty weather will find an excellent structure in which these plants may be propagated. Fill the same with dry material up to 1 foot of the glass; then place on this a layer, 6 inches deep, of soil composed of loam, leaf mould and an addition of sand. Make the surface flat and dibble the cuttings in about 3 inches apart; water them thoroughly and give air occasionally just to let out moisture. In about six weeks the cuttings will be struck, and may be lifted with fine balls of healthy roots, subsequently making study plants.—H.

Chrysanthemum Marie Stuart.—What has become of this old, but most attractive Anemone pompon variety? Fifteen years ago it was to be found in all good collections, and I do not know a single variety now that can beat it, all points considered. It is such a free grower and bloomer, that dense bushes can be had for conservatory decoration or for producing lots of cut flowers from a cutting in one season. I once saw a plant grown from a cutting in eleven months some 5 feet in diameter and literally crowded with its elegant blooms, these having a yellowish centre with a pink edge. I have been looking lately in vain in the various trade catalogues in order to find it mentioned.—J. CRAWFORD, Coddington Hall, Newark.

Chrysanthemums at exhibitions.—A noticeable feature at Chrysanthemum exhibitions is the fact that very few of the dark or crimson-coloured varieties are exhibited, particularly among the Japanese, and I think that this year they are less in number than ever. At one time the rich-coloured Jeanne Délaux used to crop up with an almost monotonous regularity in nearly every stand; then its place was taken by Edwin Molyneux, which has now lost the position it once occupied. William Seward, which forms such a charming specimen, was at first largely shown as a cut flower, and the fact that it is not now exhibited so freely is, in all probability, owing to the circumstance that there are many other varieties with larger flowers. G. W. Childs is a very effective variety of a rich crimson tint.—T.

Dwarf Chrysanthemums.—For several seasons past the display of Chrysanthemums at Worham Hall, Woking, the residence of Mr. R. N. Stevens, has been of an unusual character, inasmuch as we find the plants especially dwarfed, the system of cutting down being adopted most successfully by Mr. Gibbons, the gardener. This year the plants generally are shorter than hitherto, and although the blooms are not so large as

we see them at exhibitions, they are excellent in both form and colour. The plants range in height from 12 inches to 3 feet, and without exception carry well-developed foliage to the rim of the pot. Some sorts lend themselves to this treatment better than others, the dense-growing kinds making the better-looking specimens. A. H. Fewkes, yellow; W. H. Lincoln, yellow; Wm. Seward, crimson; Marie Hoste, white; Mlle. Thérèse Rey, white; Nivium, white; Souvenir de Petit Amie, white; Lord Brooke, bronze; Sunflower, yellow; Robert Owen, bronze; Vivian, Mme. marie; Charles Davis, rose bronze; and Constantine Blunt, yellow. A few of the most striking varieties. The mode in a few words is as follows. Cuttings are struck at the usual time and grown on in cool frames until May. At this time the plants have stout stems and are in 6-inch pots. At the end of the month all are cut back to within 3 inches or so of their base. Less water is then given until new shoots form, when the plants are finally shifted into their flowering pots, 9 inches in diameter. Three stems are allowed to each, and in most cases the earliest buds that appear are selected. This mode of growing is one which commends itself to those who object to tall plants and who are satisfied with medium-sized blossoms, which are as effective as any in groups.—H.

Chrysanthemums deteriorating.—If, as many growers of these flowers affirm, it is inevitable that stocks grown under the somewhat artificial conditions by which show blooms are produced will deteriorate, it seems odd that the precaution be not taken to plant well-rooted late-struck plants outdoors, where under natural conditions they should soon resume their wonted health. Such plants should give plenty of stout cuttings that should have the merit of giving robust plants, especially if rooted in a temperature as low as possible rather than a high one. So far as the Japanese kinds are concerned, the bulk of these are fairly robust, and it seems hardly needful, so rapid is the development of new varieties, to keep them above five years. The incurved, however, come more slowly, and the Queen type especially is liable to break with us and soon cannot be propagated. To secure robust stocks these should not be at all difficult. No one who takes stocks of the Chrysanthemums seen growing in small gardens, such as we have here in front of cottages in many of our Kingston streets, can fail to have noticed the remarkable strength of growth made by many varieties, old and new. Planted out as ordinary perennials and left to shift for themselves, they go on producing robust growths and really beautiful heads of bloom for years with no actual culture. Does not this arise from the fact that the plants are growing under natural conditions? No doubt cuttings taken from these hardy plants and rooted cool would produce very strong stems and very fine flowers. It seems but needless to treat the Chrysanthemum as a hardy perennial to have its cutting progeny in robust health.—A. D.

CHRYSANthemum NAMES.

It must have come as a surprise to many that the floral committee of the National Chrysanthemum Society recommended the golden sport from Elsie, shown under the name of Golden Ball, to be renamed Golden Elsie, on the ground that there was a Golden Ball already in cultivation. This is undoubtedly a step in the right direction, for we have been so long accustomed to see existing names applied in a haphazard manner to new varieties—for which, by the way, the raisers or distributors are responsible—that any attempt to check such practice could but be welcomed. At the same meeting, however, the element of confusion again asserted itself, for a certificate was awarded to Mysatapha—a name which has been appropriated by a pompon variety for some years. Perhaps a suggestion to Mr. Gibson would have resulted in another name being found for this, Mrs. C. Orchard, again, which was certified on the same day, is another instance of an old name being

used for a new variety. Two other particularly glowing examples of this have been noticed during the present season, for on October 6 a certificate was awarded to Japanese Chrysanthemum Surprise, which name is borne by three varieties in the catalogue of the National Chrysanthemum Society just issued, and, besides these, there is a pompon of this name, sent out about ten years ago. Many the same may be said of M. Hoste, certified on October 21, there being a rather old pompon variety of that name. Then an early flowering Japanese sent out in 1886, being one of a set which included the now popular M. William Holmes, after which we had a crimson-flowered Japanese M. Hoste, and lastly, the new form mentioned above. This indiscriminate naming of new varieties often leads to great confusion, many instances of which have come under my notice. One of these was in reference to the universally grown Vivian Morel, which it is as far as I know, the second variety bearing the same name, the first (a worthless kind) having been sent out about two years before the other, and in more than one case it was supplied instead of the superior form. This protest against the continual use of established names may to the specialist seem as if too much importance is attached to the matter, but where one endeavours to acquire as much knowledge as possible concerning plants in general, anything that tends to confuse, without possessing one redeeming feature, is greatly to be deprecated. One effect of the popularity of the Chrysanthemum at the present day is that vast numbers of worthless varieties are sent out as new, and I wonder what percentage of so-called new kinds is grown for a longer period than a season or two.

T.

Chrysanthemum Mrs. Carter.—This is a capital variety for cutting, colour a mixture of light red and old gold. If grown two plants in a 9-inch pot and not disbudded in the least, every shoot from the largest to the smallest will be furnished with flowers. This variety, more than any other I know, has a habit of forming a whole host of side laterals, all of which form buds, which open perfectly after the main shoot ones, thus forming a succession. These later blooms are most effective in small glasses, or for inserting around and over the base of miniature groups of plants on the dinner table, the colour contrasting well with the white cloth. In larger vases sprays of bloom of this variety look charming, with a few coloured dried fronds of wild Ferns.—J. C.

Chrysanthemum Tokio.—This belongs to the small-flowered Japanese section, and is indispensable for cutting during November. The petals are somewhat twisted and of a dark brilliant red colour. The texture of the bloom is very wiry, rendering them long lasting. It pays to keep several old plants of this variety, giving them large pots in January. These give an incredible quantity of bloom the following season, and if the yearling plants are kept out under canvas till say the middle of October, and then placed in a north house in succession of this most useful variety may be had up to the middle of December. These free-flowering sorts are far more useful for decoration in the house than many of the larger varieties, which will, with much feeding, produce a few mop-headed blooms, but which under ordinary cultivation refuse to open the later-formed buds.—C. C. H.

Chrysanthemum John Lambert.—This produces finely shaped individual blooms of large size if grown with that end in view. It also uses useful bushes for ordinary decoration; the numerous buff-coloured blooms, for it is very free-flowering, producing a telling effect, mixed with those of a brighter hue. John Lambert is so distinct in colour that it ought to be in every collection. Blooms grown for exhibition are usually so perfect in form that, like those of Baron Hirsch, they need little or no dressing. The central or leading blooms on the main stock look well if cut with a good length of stem and

arranged in large earthenware vases, which, by the way, are now becoming very popular. In wet sunless seasons it does well, hardly ever showing a blind bud.—C. C. H.

Chrysanthemums in open air.—No one can deny the great improvement that has taken place in the Chrysanthemum of late years, for the blooms that are seen at our great shows are faultless. One thing appears to be almost entirely lost sight of, and that is the value of the Chrysanthemum as an open-air flower. In point of ability to withstand our variable climate, none of the new and improved varieties can compare with those older sorts that made a brave show in gardens some twenty years ago. I grow a quantity of flowers for cutting, and few are more generally useful than the early Chrysanthemums of the Mme. Desgrange type, but after they are over the seasons are too precarious to make Chrysanthemum growing in the open air a profitable speculation, for just as such varieties as Sour Melanie, Mme. Lacroix, or any of the other moderately early sorts are coming into flower, a single frost of 8° or 10° spoils the lot. If only partially frost-bitten the purity of colour and value are gone; therefore we have to lift and place under glass quite early in the autumn. To grow Chrysanthemum with the idea of flowering them in the open air appears to be a sheer waste of time, and certainly is as profitable speculate it is out of the question. For many years past I have been watching the efforts of an amateur cultivator of Chrysanthemums, who fills his garden with them in the vain hope of having a goodly show in November, but as far as the new sorts are concerned it is a failure. While the old button-flowered sorts defy the frost and fog, and bloom on heedless of the dismal surroundings, nothing less than a glass roof would tempt the Japanese incurred or Anemone-flowered ones to face an English climate in the open air of November.—J. G. Gospert.

LATE-FLOWERING CHRYSANTHEMUMS.—NOTWITHSTANDING the large number of varieties of Chrysanthemums, there is not a very wide selection of sorts that are naturally late-blooming or that will keep in a fresh state until December or January without some special means being taken to preserve them. At the recent Aquarius exhibition one might have noted the names of most of the kinds which were prominent at the show a month earlier with but few additions, I think the sort most generally seen in a perfectly fresh state was Golden Gate, thus proving it an exceptionally fine variety for a late supply of bloom.

It is my yellow shade of colour is one that finds much favour, and, apart from growing it as a large specimen flower, it is equally valuable for cultivating in the ordinary way for a quantity of bloom. Niveum is now pretty well known and is a most valuable white Chrysanthemum for a late supply, and keeps fresh a long time. L. Canning in many respects is unequalled for the growth of medium-sized white flowers for Christmas, but the sort has a habit of producing a number of blind buds with some, and I have seen in more than one case lately where Niveum and L. Canning are growing side by side that the former is the more certain and better door. Its growth is the taller of the two but the flowers are beautifully light in formation and the stems long and stiff. Le Moucherotte is likely to make an excellent sort to grow for late bronze-coloured blooms. The shade is rich and the flowers quite double in every case. Le Rhône is a nest-like yellow, the plant very dwarf and free flowering. A bunch of this sort was rated the freshest at the show named above. I think it will run W. H. Lincoln hard as the best late yellow. The latter, although extra fine in habit and bloom, a trifle wanting in lightness of formation. Duchess of York is another pretty shade of yellow late in the season. Its blooms, too, are more graceful in form. As a November variety it has fallen away from its early reputation, but one should not discard the sort by

any means if a late supply of bloom is required. A charming yellow is William Filkins. It is one of those tiny wiry floreted blooms, and will be found very useful for vases where a light arrangement is needed. This sort is naturally late, and may be had at Christmas without difficulty. I have never seen Elmer D. Smith so fine as it has been lately. The colour, rich dark crimson, is wanted late. It has handsome drooping petals and the blooms last fresh for a considerable time. In Pluton we have crimson likely to be useful for the growth of medium-sized flowers and the habit is dwarf. Beauty of Castlewood is a good late sort for show blooms, but it is a bold doer, and therefore of little use to the majority of growers. Graphic appears to be excellent late in the year. Early in the season the flowers are white, but from late buds they are light pink, very pretty, too, both in colour and form. Sunstone has blooms of a striking shade of buff-yellow. This shade should make it valuable for a late supply. Rose Wynne is a very handsome flower. The form and colour (white, slightly tinted) appear perfect late in the year. This is a first-rate sort to keep a long time in a fresh condition. Mme. Rosemary pink is another fine large show flower, and is also good when the blooms are not disbudded. A lovely pink variety named Framfield Pink is likely to find much favour when better known. It is not large, but in shape it is pretty, and the colour is free from that washy character too often seen. Under gaslight the colour is remarkably striking. Mrs. H. Weeks is a good white flower late in the year, as those who failed to obtain blooms of it in November will find.

The single Chrysanthemums are well adapted for late flowering; thus their value as useful subjects is greatly enhanced. The best are Admiral Sir T. Symonds, large yellow; America, white, shaded; Golden Star, yellow; Miss Annie Holden, light yellow; Miss Mary Anderson, bluish-white; Miss M. Wilde, rosy cerise; Eu-charis, white; Purity, white; and Treasure, H. S.

Chrysanthemum L. Canning.—This is an excellent Japanese variety suitable for growing for decoration in the house. It is dwarf and the blooms are well formed and freely produced. Plants carrying from six to eight flowers are very effective, as the individual blooms then grow to a large size, or quite large enough for all ordinary purposes. When white Chrysanthemums are in demand, L. Canning should be one of the number of varieties grown for furnishing the supply.—A. W.

Chrysanthemum Lady E. Saunders.—I am at one with your correspondent "C." as to the merits of this variety, which he does not in the least over-estimate. I have grown it for the first time this season, and its lovely soft primrose-coloured bloom have been greatly admired. I do not like very big blooms, as they are not required here, but grow simply for house decoration and for cutting. The plants of the variety in question are carrying from twelve to fifteen flowers each. Some plants of the same variety lifted and planted in a decomposed bed of fermenting material in a viney will give some good blooms in a fortnight's time. This, I find, is a very good way of dealing with plants that are merely required for cutting from. It saves trouble in potting, and also saves the pot plants from being spoilt by denuding them of their blooms while in full beauty.—W. S. E.

Chrysanthemum Mrs. Wm. Filkins.—The thread-petaled varieties at the time of their introduction were often written about, and their grace and beauty also often defined. Many growers may have been disappointed because of their failure to produce flowers of large size. In an attempt to make flowers of large proportions the charming characteristics would to a great extent be lost. The variety under notice is one of the best of these beautiful decorative sorts, and to be seen in its best, it should be grown in bush form and without any attempt to disbud. In this way sprays of the most elegant description

may be obtained in large quantities. As a rule there may be had with one flower fully expanded, and two or three others only partially developed, yet sufficiently so, to give an additional lightness and grace to the perfect flower on the same main stem. The flowers are very compact, becoming smaller as the tips are reached, and these are so prettily forked that an extra charm is thereby given to the flowers. For bouquets, epergne, buttonholes and sprays the flowers of the thread-retailed varieties are invaluable. The habit of this variety is dwarf and bushy.—D. B. C.

Chrysanthemum showing.—We have very painful memories of a visit to the Westminster Aquarium on the occasion of the great Jubilee show of these flowers, where the Chrysanthemums were all set out like coloured Cauliflowers, and nearly as large as some of those grown at Naples, or as pretty as if cut out of Carrots and Turnips. The progress that has been made in this flower of late years does not, we regret, to say, go hand in hand with any improvement in the taste of exhibitors, which is, and has always been, shocking. Even the groups shown for what they call effect were as formal as haycocks and almost absolutely like each other, all the lovely colours of the plants dotted about neutralising each other, nothing being held together, nothing simple, nothing broad or artistic. A few days since we passed a few tufts of the common little cottage kinds grown in the open air without a particle of protection, and after the great tempests and rains of an unusually severe autumn, bearing fresh and pretty flowers, proving that there are ways of growing Chrysanthemums so that one can enjoy them, and even find them beautiful things in a garden picture. The old-fashioned small kinds are the best for this, and, of course, are doubly good when well mixed up, but each beautiful kind grows in some breadth and quantity sufficient to tell its story properly. Where we saw those doing so well was on a heavy soil, so that those who have light and warm soils should do them much better.—Field.

FLOWER GARDEN.

A WINTER GARDEN.

We do not, I think, fully appreciate the amount of our gains in the outdoor garden during early winter. Certainly the other day I was so struck by the beauty and even brilliancy of flowers, shrubs, and foliage in the clear sunny mornings that so frequently are found in November and December on this coast, and I presume elsewhere, that I made notes for what I will call the December garden, which may easily be a thing of beauty in any favourable season, more especially near the sea where there is a little shelter.

First, take that sunny wall; it is a perfect blaze of colour with Pyracantha Lælandii berries, which cover the branches much more evenly and continuously than the old and commoner form. Silver variegated Madeira Ivy is growing up through it, and there is a mass of the yellow winter-flowering Jasmine well out just beyond. Nothing brighter than these two can be seen outdoors at any time. Chimonanthus fragrans is just opening its first sweet flowers, and near it big bushes of shrubby Veronicas are in abundant flower, crimson, white, deep blue-purple, soft pink, and the commoner shades of colour being all well represented. Purple Queen makes a good dwarf edging to this bold clump, which is now as full of beauty as it was some months ago. Laurustinus bushes, so pretty with their red buds and white opening flowers, make a charming background, and the white Eupatorium *Weinmannianum* close by is still well sprinkled with its pure white corymbs of bloom—a most

charming seaside shrub that is as hardy as the scrubby Veronica, but is very little planted, it seems to me. A long line of Iris *fetidissima*, rich in green foliage and scarlet-berried pods, rises from a groundwork of Saxifraga *luligata* and Periwinkles, already studded with blue and white stars, and the pink heads of the first Saxifrage flowers.

But all these are merely the outworks of this garden, for the beds are fragrant with that charming yellow Wallflower, Earliest of All, which in December is so welcome both for colour and fragrance, that one pardons its poorer flowers when the later kinds are open. This year, at any rate, the beds of the giant Hellebore (*B. niger maximus*) and both the white and the red bedding Primroses are full of flower, making a wonderfully bright and spring-like effect. The yellow sorts are not so precious, but that colour is so well given by Wallflowers and the late hardy Chrysanthemums, such as Ryecroft Glory and Source d'Or, that it is scarcely missed.

Perhaps one of the most reliable winter flowerers is a charming double pink Daisy which I first saw at Monte Carlo, but which is just as free and beautiful in England as it was there. This gives a colour that is especially fresh and welcome, and well repays the trouble it takes to prevent its seedling and filling the beds with ordinary red-tipped single Daisies. The double white and red varieties only give a few blooms at this season, but "Monte Carlo" is perennial in its gaiety.

I need say nothing of the many belated autumn flowers, such as the white and yellow Paris Daisies, red Schizostylis, rose-coloured Mesembryanthemums, and many others, which may or may not add their quota to the modern December garden, for when one adds the hardy foliage of *Adonis Sieboldi*, New Zealand Flax, and other still harder shrubs, I think any garden lover will realise how easily in many places a winter garden may really be a thing of beauty, to be enjoyed whenever the weather is propitious, and which with the first return of milder weather will be added to very rapidly by the host of spring bulbs, which begins by Christmas with *Crocus Imperati*, and is soon followed by the lovely *Hyacinthus azureus*.

Scarborough. EDWARD H. WOODALL.

AUTUMN PLANTING.

It seems to me that the majority of gardeners (and I write personally, for the thought has only lately occurred to me) fail to realise that in nearly all hardy plants a mixture of varieties (not species) is invariably in good taste. The blending of colours that is seen either from a distance or close at hand produces nothing objectionable. I noticed this particularly this season first with a mixed border of Polyanthanums, and later with one of Carnations. Naturally, if seed is required of the former, or if the Carnations are to be layered when they have flowered, it is advisable to plant in blocks of selected colours or separate varieties, but if in either case this is desired, then a general mix may be safely adopted with the very best results.

We have, too, in such planting a variation in the height that has nothing of the severe regularity about it inseparable with the other style, but every plant varies as much in height as in colour. Perhaps in the Carnations a pronounced yellow would not look at home side by side with, say, Kettone Rose, but I have never yet found a yellow that is at once perfectly hardy and free, and so have nothing of that shade among the border varieties. The same rule holds good with things of larger growth—Pyrethrums, Phloxes, and Starworts, for example. One can hardly in either case pick out a variety and say that it will not from a colour standpoint associate well with

its fellows, and so it comes that the practice of grouping species in great variety can always, if space permits, be successfully adopted. Whilst on the subject of hardy plants I should like to add a word at this season on increasing by division, and the best method of doing the same. This with regard to perhaps the majority of things the mode of propagation most in vogue in private places where a large stock of any one particular species or variety is not required, and it possesses the merit of giving very little trouble—not storing away in nursery or prepared beds for the time, simply lifting, dividing, and replanting where required. Now the particular point to which I want to draw attention is the advisability of care in such division. Even with the Pyrethrums, close and matted together as they are, it is worth consideration, but very much more where the crowns are at all loose, and rough handling means not dividing them into three, four, or half a dozen compact pieces as their size may admit, but splitting up into fragments, which are then sometimes budded together and crammed into a small hole to try and hide the careless work. The right way in dealing with these things is to shake the soil away gently from the crowns, then to run the fingers lightly both through these and the roots to find where the place of separation can most easily be effected, and to perform the operation with a sharp knife, taking care neither to bruise nor mutilate crown or root more than is absolutely necessary. It is only reasonable to infer that plants so treated will find the division least and come away much more quickly in the following spring. E. B.

FLOWER GARDEN NOTES.

CARNATION ULRICH PIKE.—It is to be hoped that this Carnation, which comes as such a capital substitute for the Old Crimson Clove, will not develop the objectionable failing that rendered the cultivation of the latter variety in the majority of places practically impossible. Certain it is that the plants have a touch of spot, and, as formerly the case with the older sort, it is the only one out of about two dozen varieties that is in any way affected. The only way I can account for it is that some of this sort was layered in a frame together with two or three Malmaisons, and may possibly have taken it from them, although no symptoms of disease were apparent when the plants were put out. We know, however, that some sorts are particularly susceptible; indeed, one season I remember having the Old Crimson planted side by side with two members of the same family, a pink and white, and whilst the two latter kept perfectly clean, the former was simply covered with spot, a state of things that makes the visitation all the more mysterious. Greatly appreciated as Carnations are generally, it is, I think, to thoroughly good selfs, whether in white, apricot, yellow, scarlet, pink, or crimson, at the most favour to be shown. Their welfare is invariably the first consideration—that due to these one naturally ceases when making an inspection of beds, as bad crimson are not so common that we can afford to contemplate with indifference any defect in the constitution of a variety so good in colour and scent as Uriah Pike. Writing of this class of plants reminds me that those who are wanting to strengthen for cutting their stock of finely scented white flowers cannot do better than invest in a small stock of Snowflake Pink. It is a variety of great excellence, being very fine, pure in colour, and a non-splitter.

PIONES.—Any one contemplating a rather extensive planting of Peonies must remember and study their requirements a little, or the result will hardly be satisfactory. There are some hardy plants that will do fairly well in almost any situation, but this cannot be said of Peonies. Here, for instance, if just planted in the natural soil and left without further attention, the flowering season in summers when the heat is above and the rainfall below the average would be of the briefest character. It is absolutely necessary to work in a liberal dose of a stiffer compost than is naturally available, to add cow manure in the

ratio of one to three or four of soil, and to mulch heavily. Bearing in mind, even with the best culture the comparatively short season, it is hardly advisable to group them in quantity alone, although a selection of both singles and doubles would give a display through the greater part of May and June. The better plan, however, is to plant at a distance that will allow for working in other things, choosing in preference something that will take up the flowering after the Peonies are over, and continue more or less till the end of the season.

Poppies.—It would seem that there is a growing fancy for gorgeous-hued flowers, although their beauty is of a somewhat transient character, and Poppies in variety may claim to be a sort of miniature edition of the Peony, although some of them equal, even if they do not exceed, the largest Peonies in size. The varieties of orientale and bracteatum, for instance, would, I suppose, produce the largest flowers to be found in the garden. These, I think, show to the very best advantage in bold clumps in the front of shrubs, so that a bit of green shows between them, so much the better, as the poppies open in a red note, a difficulty is often found where rabbits are troublesome, of providing for the wild garden without the expense and unsightliness of wire netting. I should think the Poppies, like Fox gloves and Daffodils, would be among the few, the very few, plants that rabbits will not touch. Alike in height of plant as in size of flower, these Poppies are on the big side, although they vary considerably. The mention of Poppies and a thought of the wants of the wild garden led to the mention of the large types, but it was ridiculous and its varieties of which I was thinking when starting the comparison and similarity between Peonies and Poppies, and although the annuals, such as the best varieties of somniferum, exceed them in size and brilliance, for graceful beauty, purity of colour, long-sustained flowering, and greater duration in a cut state, the Iceland varieties hold their own remarkably well. June is a good time to sow, and if the summer is anything like that of 1896 a partially shaded position is advisable, the soil fairly light and open. The plants can either be pricked out for a time or they can be thinned early, a little fine soil being put in among those that are left, thus being transferred when convenient to permanent quarters. The Poppy can hardly be put out of place, and a large batch I have for cutting is growing on some narrow borders, filling up a space that is to spare between bush Apples. It is a sign of the increasing favour with which such flowers are regarded to find them very largely in evidence in the most tastily arranged dinner tables; in fact, together with the annual Poppies, Sweet Peas, large-flowered Marguerites, and single Gaillardias, they are about the very best things for such work.

Clarendon.

E. BURKE.

Eczema and Hyacinths.—At a recent meeting of the Linnean Society of London, Dr. Morris, C.M.G., of the Royal Gardens, Kew, showed some specimens and slides of raphides in the bulb of the common garden Hyacinth (*Hyacinthus orientalis* and its varieties). Gardeners are aware that persons handling and cleaning these bulbs are liable to eczema, and Dr. Morris's experiments and observations in the Jodwell Laboratory at Kew have shown that the scales from the bulbs, whether dry or moist, were capable of causing much irritation in some people when applied to the skin. The raphides, which it seems clear cause this irritation, are needle-shaped crystals of oxalate of lime, varying in length from one-hundredth to two-hundredth of an inch. They are arranged in close bundles, and when the scales are rubbed are easily detached. Dr. D. H. Scott, F.R.S., at the same meeting mentioned some experiments which confirmed the conclusion that the irritation of the skin produced by handling Hyacinth bulbs was due to puncture by the numerous raphides on the scales. It appears that Roman Hyacinths (*var. albulus*) are particularly liable to produce the irritation. As

to the use of the bulbs of this crystal armour, it is suggested that they are protective, and, as a matter of fact, gardeners are aware that snails will eat Hyacinth bulbs, but attack others growing close by.

Polyanthuses.—A grower of a very high-class strain of the gold-laced section recently stated that there was very little call for seed, very few persons caring to grow these old florists' forms. There can be no doubt that these have found in the fine free-growing border section very formidable rivals, and those who grow Polyanthuses for garden decoration only and not for exhibition greatly prefer them. And yet there can be no doubt that there is much that is very attractive in a really good strain of the gold-laced section, for the markings are charmingly defined and interest in them increases as the florist's points in them are understood. Nine-tenths of those who grow these hardy spring flowers outdoors not only do not understand what are the properties of a good flower, or indeed, except currently at some spring show, have ever seen good ones. A bad strain usually comprises the veriest rubbish Polyanthuses can produce. It would be gratifying if a few more persons who fancy hardy flowers, but become attached to the gold-laced forms, study them, improve them, and thus once more bring them into popularity. With regard to the border section, although far less grown for show than they deserve, yet they have in them merits it is but needless to understand to realise. The pipes should be borne in good even trusses on stout, erect stems, and should be of good size, though not unduly large, have good clear colours or markings, pure yellow or lemon yellows or centres, well defined, and have perfect thrum eyes. These are points any amateur can easily comprehend, and should select specially to secure. Selection will do much and some careful intercrossing will help also.—A. D.

PHORMIUMS.

Of late there have appeared many interesting notes in THE GARDEN respecting these plants, though none appear to have stated the amount of frost they will endure with impunity. "F. W. B." mentions *Phormium tenax* growing well at Powerscourt, Co. Wicklow, Ireland, but does not say how much frost the plants had to endure. During the time I lived in that part of the country frost was never so severe as to kill many plants that perish in an ordinary winter in the south-east of England, for, as a rule, along the coast of Ireland the weather in winter is mild. I have grown several varieties of *Phormium*, but have always found it best at the approach of winter to lift them and store them away for a couple or three months in winter. In this way there is less risk of losing them. Plants that have remained out during severe weather unprotected usually present a sorry figure in spring, and it takes them all the following summer to recover. There are several plants in this neighbourhood that have remained out for years, but they are no larger now than when first turned out. The one I have named Colenso is the strongest grower of the lot. It has variegated foliage, but the stripes are not very distinct. This often sends up flower-spikes from 12 feet to 15 feet high, which produce seed-pods different in shape from those of the others, for while those of the old *tenax* are thick and terminate with a blunt end, Colenso has long pods which are pointed and turned back. *P. veitchii* has the prettiest foliage, the stripes being much plainer and of a more yellow tinge, but this does not flower so freely. *P. tenax* variegatum with me is after the old broad-leaved form, the stripes being near the edges of the leaves. Strange as it may appear, none of them will produce variegated plants from seed. Last year I saved a quantity of seed which was sown in a box and placed in a Cucumbers-house; it readily germinated and all the first leaves were white, but after a time they changed to green, so that at the present time, instead of

having a batch of variegated plants, they are all green. This, I should fancy, is the cause of the upright form of the Powervcourt variety, it being a seedling of the variegated form of Colenso which grows to the height of about 6 feet; the plants which have been seen the most worthless of these plants can have any idea of their beauty. They are striped in the same way as the leaves, but instead of green and yellow are chocolate, buff, brown, and various other colours running into each other.

Buxted.

H. C. PRINSE.

NOTES ON HARDY PLANTS.

The Japan Anemone.—Ten or twelve years ago I believe in these columns I mentioned that I had seen a grand lot of seedlings in the little nursery corner of the Princes Street Gardens, Edinburgh. As well as I can remember, the shades varied from red-purple to the delicate pinky tint of the Dog Rose, and in the white forms there were some noble flowers as well as fantastic shapes equal to, if not more so than in Whirlwind. The conversation I had with the manager who raised them need not be given further than that he told me he had a great fancy for the species and had been getting plants of it from seed of his own.

Romneya Coulteri.—This during the month has been one of the most pleasing objects. The plants were in pots and had stood all the summer in the garden, but after one or two sharp frosts, when the buds seemed to remain firm and uninjured, the pots were taken into a cool greenhouse, and it is in this way I have got the superb blooms as well as the promise of some good seed, the capsules swelling fast. It is well known that in these northern parts this plant is not always sure to survive a severe winter, or only when protected by mats, Bracken or some such dry covering.

Saxifrage Fortunei is a late, almost too late flower, but as by the time it comes the rank and file have passed away, its value is enhanced. Another feature of this plant is that until a severe frost occurs its foliage is both ample and fresh. The flowers, too, unlike those of most Saxifrages, are large, showy and beautiful. A keen frost in November brings a sudden change; all is withered up in a day; the only consolation is that the roots remain sound, and we shall see it flourish the following year.

Saxifrage cuscuteiformis.—This is another of the less common Saxifrages, which goes on flowering in a cold frame to near Christmas. It belongs to the sarmentosa section, and is sometimes called the Dodder Saxifrage, from its numerous thin stolons. The most west of its section, it has the biggest flowers, and these of a deep rose colour, of most like shape combined with the charming wedge-shaped foliage, mottled and netted with delicate white lines, all go to make this plant of the utmost interest and beauty. As it can be kept in sheltered nooks in the warmer parts of our country, in cold frames, greenhouses, or even dwelling-room windows, it should be more often seen. Many complain they lose it. It may not be generally known that well-established plants develop crowds of minute tubers or granules, and once you get a strong plant of this character it is not easily lost.

Shortia galacifolia.—What can it be that hinders so many expert growers of hardy flowers from succeeding with this handsome if humble plant? When I see it in some gardens and compare it with my plants, I am half inclined to be vain, but I have nothing to warrant such vanity, having done nothing very special for them, I can only thus express my surprise that anyone should fail with healthy specimens. Now that the garden has been born of all its flowers and most of its greenery, yet rich tints, becomes more attractive.

J. WOOD.

Woodville, Kirkstall.

NELUMBINUM SPECIOSUM IN AUSTRIA. fully. During the winter I put the plants on October 3 you inquired whether anybody back into a cold house where they bore the had tried to acclimatise the Nelumbium. Some winter well with 4° to 6° Réaumur. Only Nelumbiums, particularly the following: N. speciosum roseum, N. Osiris, N. album, N. luteum, and N. pekinense rubrum, have been

winter well with 4° to 6° Réaumur. Only one shoot of N. album which had grown out of the tub lived out of doors, and remained there through the winter. Contrary to expectation,

N. speciosum and N. Osiris. I planted them out in baskets, having cultivated them in boxes until the middle of June, when I placed them again in the pond in a part which was about 16 inches deep. These plants grew well during the summer. Some of them had as many as thirty leaves. They remained out of doors during the winter without being covered up at all, only the water was somewhat higher, so that it covered the plants by about 2 feet to 2 feet 4 inches. The plants stood the winter with the exception of N. speciosum roseum, which perished.

Herewith two photos taken this summer. The illustration on p. 471 shows N. Osiris with fifty leaves and six buds, three of which only developed owing to the hail. N. album had over sixty leaves and two buds, both of which were killed through the hail. One plant of N. speciosum roseum in a tub had eight buds. The illustration herewith represents a tub plant.

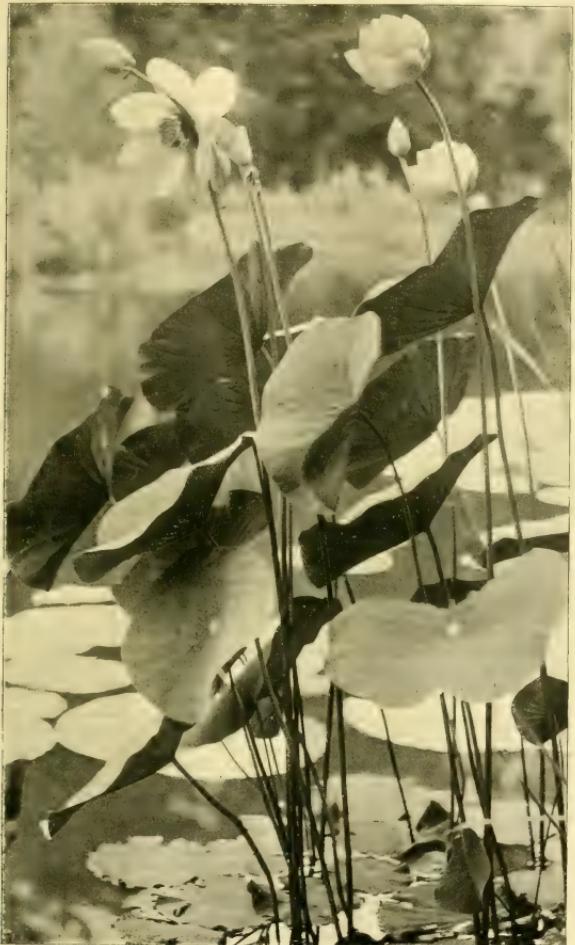
V. SCHENDEL.

*The Gardens, Schloss Opeka, nr. Vinica,
Croatia, Austria.*

Pampas Grass protection.—My experience in the county of Monmouthshire is not in accord with that of your correspondent John Crook. I have numerous plants of the Pampas Grass, large and small, young and old, probably as good as any in the county, and, as a rule, they are protected either late in the autumn or very early in the winter with either Bracken or very loose stable manure, the same as I apply to the Artichokes, which seldom fail. As a protection I prefer the loose stable manure. Unfortunately for me, through change of my head gardener, this protection in 1894 was neglected, or rather partially so, the result being that the unprotected all died, young and old, whilst most of the old protected ones and most of the younger ones lived.—G. WENT.

Clematises on their own roots.—Clematises, like Rose, are so universally grown as grafted plants, using the roots of C. Vitalba or Viticella for the stock, that very few ever give a thought to growing them in any other way. They can easily be increased by cuttings or layers, for I have rooted a good many of various kinds, especially of that old well-known kind C. Jackmani and that universally grown early white C. montana. As I have not used them for comparison as to growth with grafted ones, I cannot speak with authority as to them. As some readers may like to try striking cuttings, allow me to say that the best time is when close at hand, as the Clematis starts into growth very early in the season, and very early in the new year, on sunny walls, the young shoots will be found pushing through. When they are from 4 inches to 6 inches long, take them off with the heel or bud intact and insert them round the edges of small pots in fine sandy soil, and treat them like any other soft-wooded cuttings. The majority of them will make good plants during the season. As they are very brittle, they require careful handling.—JAMES GROOM, Gosport.

Cutting down herbaceous plants.—At this time of the year, when flower beds and borders are receiving a general clear up, hardy plants are stripped of their old leaves on the plea of tidiness just as the most inclement period of the year is at hand. If one remonstrates with the gardener, you are sure to be met with the remark, "Well! they are dead, and of no more use. Why not cut them off?" As far as appearance goes the advocates of cutting down get the best of the argument. The old drooping leaves of Peonies, Irises, Delphiniums, and a host of others not only look seedy and weather-beaten, but they collect and hold in their embrace all the loose tree leaves that are flying before the autumn gales, and collectively they form a very effectual screen against the winter's cold, and above all it must be remembered that where the leaves are cut off the hollow stems let the rain down right into the heart of the



Nelumbium speciosum in M. Bombelle's garden at Schloss Opeka, Croatia. From a photograph sent by M. V. Schendel.

cultivated successfully for years in tubs in the garden of M. Bombelle. Two years ago I tried growing the plants in tubs in a pond. The result was good; the plants got on very well in the open air and commenced growing beauti-

this plant bore the cold weather beautifully, and commenced growing in the middle of May next year. This induced me to make another trial. I ordered some young plants from Latour-Mariac, Temple-sur-Lot, France, consisting of

plant, while the bending stem keeps the heart dry, and therefore able to resist much more cold. I have often been struck with the luxuriant growth of plants left in old totally neglected gardens, where the old foliage of one year dies down and forms a top-dressing for the roots during the next, and although the strongest growers do in these cases soon overgrow the weaker ones, I cannot but think that a lesson may be learnt that may make us pause before we shear off even the withered leaves of our hardy plants at the approach of winter, and leave them to face it without any artificial protection. No wonder that many a plant that would prove hardy if left alone dies outright, the victim of misdirected zeal.—J. G., *Gosport*.

SPRING GARDENS.

The quietness year dissolves the snow,
And grasses spring and blossoms blow :
Through groves plains the river pours
Its lessening flood by silent shores :
Again 'tis awakening forests wear
Their pendant wealth of wreathed hair.

HORACE. English by Sir E. De Vere.

In our islands, swept by the winds of iceless seas, spring wakes early in the year, when the plains of the north and the mountains of the south and centre are cold in snow, and in our green springs the flowers of northern and alpine countries open long before they do in their native places; hence the artistic error of any system of flower gardening which leaves out the myriad flowers of spring. It is no longer a question of gardens being empty of the right plants; nurseries and gardens where there are many good plants are now about us everywhere, but making effective use of these is another matter, and one to which much thought is rarely given. The garden may be rich in plants, but poor in beauty; many gardens are stuffed with things and are in effect ugly.

If we are to make good use of our rich spring garden flora, we should get rid of much annual culture, though it is not well to get rid of it altogether, as so many things depend for their full size and beauty on rich ground and frequent cultivation. But, considering the many things that grow without these, the most delightful spring gardens are only likely to exist where we make the best use of the many plants that demand no annual care, from Globeflowers to Hawthorns. The usual "spring gardening" consists of "bedding out" of Forget-me-nots, Pansies, Daisies, Catchflies, and Hyacinths in beds and in ribbons, but this way of cultivating spring flowers is far too narrow, and originated when we had few good spring flowers.

The fashion of leaving beds of Roses and choice shrubs bare of all but one subject should be given up. In many places the half-bare Rose beds might be a home for choice spring flowers—Pansies, Violets, early Irises, Daffodils, Scillas, and many other dwarf plants in colonies between the Roses. Double Primroses are happy and flower well in such beds. The slight shade such plants receive in summer from the other tenants of the bed assists them. Where the Rhododendron beds are planted in an "open" way (and these precious bushes never ought to be jammed together), a spring garden of

another kind may be made. The peat-loving plants (and there are many fair ones among them) will be quite at home there—much more so than in any bare borders. The white Wood Lily of the American woods (*Trillium*), the Virginian Lungwort, the Canadian Bloodroot, the various Dog's-tooth Violets, and many early-flowering bulbous plants enjoy peat beds.

Next we come to borders and beds of favourite spring flowers, such as Polyanthus, Primroses in their coloured forms, Cowslips, Auriculas, which in the self-coloured kinds are charming, so that there is a variety of ways of enjoying such plants more easily managed than the "bedding out" of spring flowers. That may follow the fashion of the hour, and with such plants as Forget-me-nots, Daisies, Siene, Pansy, Violet, Hyacinth, Anemone, and Tulip, bright and pretty effects may be formed; but without any formal beds under the windows, fair gardens of spring flowers may be made in every place, and the eternal problem of the design for the few set beds of the "spring parterre" will not be so serious a matter as in the past. There are so many

HARDY PLANTS THAT FLOWER IN SPRING

(many alpine plants blooming as soon as the snow goes), that it would be impossible to enumerate them all in an essay devoted to the more effective and essential groups for our gardens. We must omit any detailed notice of plants like Adonis, Crinum, Draba, Erodium, and the smaller Rockfoils and Stonecrops, *Erinus* (for old walls essential), hardy Geranium, Dicentra, Fumaria, Omphalodes, Orobis, Ramondia, Sanguinaria, Silene, and many other flowers of spring.

ROCK CRESSES AND WALLFLOWERS.

As to the dwarf plants for the spring garden, the first place belongs to certain mountain plants of the northern world, which, in our country, come into bloom before the early shrubs and trees, and amongst the first bold plants to cheer us in spring are those of the Wallflower order—the yellow Alyssum, very effective if treated in bold ways, and easy to grow, the white Arabis, very well known, and even more grown in Northern France than in England (and it well deserves to be spread about in sheets and effective groups), and the beautiful purple Rock Cress (*Aubrieta*), which is a lovely plant of the mountains of Greece and the countries near, and which has varied into a number of kinds even more beautiful in colour than the wild kind. Nothing for gardens can be more precious than this plant in nearly all its forms, its hardness, habit, and long spring bloom being qualities useful in almost every kind of flower gardening—banks, walls, edgings—and it should be seen in strength in every flower garden where spring flowers are thought of. These are among the plants that have been set out in hard lines in spring gardens, but it is easy to have better effects from them in groups, and even in broken lines and masses, or as carpets beneath

tall plants or bushes, thus giving softer, if less definite, effects.

The white evergreen Candytufts are effective plants in clear sheets of white for borders, edgings to beds, tops of walls, and the rougher flanks of the rock garden.

Happy always on its castle walls and rocks, the Wallflower is most welcome in the garden, where on warm soils and genial climates it does well, but hard winters injure it often in cold and inland districts, and it is almost like a tender plant in such conditions. Yet it must ever be one of the flowers best worth growing in sheltered and warm gardens; and even in cold places one may have a few under the eaves of cottages and on dry south borders. It is where large masses of it are grouped in the open and are stricken—as the greens of the garden are stricken in cold winters—that we have to regret having given labour and a place to what might have been better devoted to things hardy everywhere. The

WINDFLOWERS

are a noble group, among the most beautiful of the northern and eastern flowers, some being easily naturalised (like the blue Italian and Greek Anemones), while the showy Poppy Anemones are easily grown where the soils are light and rich and in genial warm districts: but these and other large Anemones require some care on certain soils, and are among the plants we must cultivate and even protect in cold districts and hard winters. And the same is true of the brilliant Asiatic Ranunculus and all its varied forms—Persian, Turkish and French, as they may be called, all forms of one North African plant. The Hepatica is a lovely little plant where the soil is free, though slow in some soils, and where it grows well all its varieties should be encouraged, in borders and margins of beds of American bushes as well as in the rock garden. Columbines are very beautiful in the early part of the year, and if we had nothing but the common kind (*vulgaris*) and its forms, they would be precious; but there are a good many others which thrive in free soils, some very graceful and charming in colour. The common Kingcup, which is so fine in wet meadows and by the waterside, should be brought into gardens wherever there is water, as it is a most effective plant when well grown, and there are several forms, double and single. The Clematis, the larger kinds, are mostly for the summer, but some (*C. montana*, *C. alpina*, *C. cirrhosa*) are at their best in the spring; they should be made abundant use of on walls and over banks, trees and shrubs. The Leopard's-banes (*Doronicum*) thrive everywhere, and are vigorous and handsome in shrubberies and rough ground. The winter Aconite (earliest of spring flowers) naturalises itself in many soils, but on some few dwindles and dies out. It should rarely be grown in the garden, but in shrubberies, copses, or in grassy places.

LENTEN ROSES.

The most distinct addition to the spring garden of recent years is the Oriental Hellebore

in its many beautiful varieties, many of them raised in gardens. They are handsome and stately plants, with large and delicately marked flowers. With the usual amount of garden shelter and fairly good soil they grow bold and free, and have a stately habit and fine foliage, as well as beautiful flowers—excellent for cutting, too. They are most effective, sturdy, impressive plants for opening the flower year with, often blooming abundantly at the end of February.

Amongst the most beautiful of the smaller alpines bushes ever brought to our country is the alpine forest Heath, which is cheery and bright for weeks in spring. It is one of the plants that never fails us, and only requires to be grown in bold ways to be effective—in groups and masses fully exposed to the sun. The European Dog's-tooth Violet is pretty in the budding grass, where it is free in growth and bloom. The common Fritillary is one of the most welcome flowers for grass, best in moist meadows; the rarer kinds do well in good garden soil, some of them with pale yellow bells being charming.

SNOWDROPS, SNOWFLAKES, CROCUSES AND HYACINTHS.

The Hyacinth, which is often set in such stiff masses in our public gardens, gives prettier effects more naturally grouped, but, with all its popularity, it is not nearly so important for the open air as many flowers more easy to grow and better in effect, though some of the more slender wild species, like *H. amethystinus*, are very beautiful and deserve a good place.

The Snowdrop has attained much greater value of late years, owing to new and interesting forms of it, some of which have been brought from Asia Minor and others raised in gardens. In some soils it is quite free and becomes easily naturalised, in others it dwindles away, and the same is true of the vernal Snowflake (*Leucojum vernum*), a beautiful plant. The larger Snowflakes are more free in ordinary soils, and graceful in certain positions; easily naturalised, too, in river bank soil.

The Crocus (the most brilliant of spring flowers) does not always lend itself to growing naturally in every soil, but on some it is quite at home, especially those of a chalky nature, and will often naturalise itself under trees, while in many garden soils it is delightful for edgings and in every way.

To the blue Scilla we are much indebted from the wild plant of our woods to the vivid blue of the Siberian kind; some kinds are essential in the garden, and some may be naturalised in warm and good soils. With these lovely early flowers has come of recent years to our gardens the beautiful *Chionodoxa* from Asia Minor, of about the same stature and effect as the prettiest of the Scillas, but more important for effect; it is among the plants which may be planted with best results in visible groups on the surface of beds planted with permanent flowers, such as Roses—where Rose beds are not surfaced with manure, as all Rose growers unwisely advise.

IRIS AND GRAPE HYACINTH, NARCISSUS AND TULIP.

In good and warm soils some of the more beautiful of the flowers of spring are the early Irises, but, in gardens generally, the most beautiful Irises come in late spring, with the German kinds, which are so free and hardy throughout our country. Orchid houses themselves cannot give any such array as these when in bloom; and they are often deserving of a little garden to themselves, where there is room for it, while they are useful in many ways in borders and as groups. About the same time come the precious Spanish Iris in many colours, lovely as Orchids, and very easily grown, and the English Iris. The Grape Hyacinths are pretty and early plants of Southern Europe, and always delightful in colour; they increase rapidly and some kinds do very well in the grass, but the rare ones are best for warm borders and groups in

no plants better deserve a little garden or border to themselves. The great scarlet Poppies are showy in spring and best among trees and in the wild garden, and with them may be named the Welsh Poppy, a very effective plant in spring as well as summer, and often sowing itself in all sorts of places. The various garden forms of the opium Poppy and of the field Poppy, both double and single, are very showy where any thought and space are given to annual flowers. The tall Phloxes are plants of the summer, but there is a group of American dwarf alpine Phloxes of the mountains, which are among the hardest and most cheery flowers of spring, thriving on any dry banks and in the drier parts of rock gardens, forming neat mossy edgings in the flower garden, and breaking into a foam of flowers early in spring.

Primroses are a lovely host for the garden, especially the garden varieties of the common Primrose, Polyanthus and Oxlip. Few things deserve a better

place, or are more worthy of good culture

in visible groups and colonies. Some kinds

of hardy Ranunculus, the hardy herbaceous

double kinds, are very

fine in colour, and in

bold groups are pretty;

and nearly allied to,

and somewhat like

them in effect, though

taller and bolder, are

the various Globe

Flowers, easily naturalised in moist,

grassy places or by

water, and also free

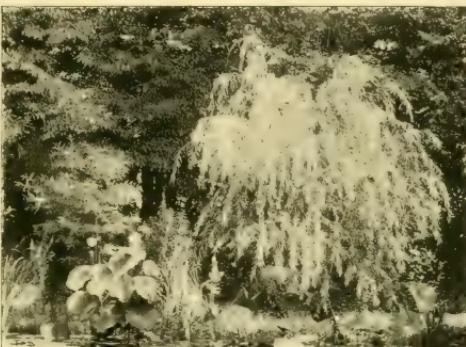
and telling among

stout herbaceous

plants. The large-

leaved Indian Rock-

foils are, in many



In the garden at Schloss Opeka, Croatia. From a photograph sent by M. V. Schendel. (See p. 469.)

the rock garden. The Narcissus is the best of all plants for the spring, and worth growing in every way, the rarer kinds in prepared borders or beds, and the many that are plentiful in almost any cool soil in the grass.

The Tulip is the most gorgeous in colour of all the flowers of spring, and for its colour and effectiveness is better worthy of special culture than most; indeed, the florists' kinds and the various rare garden Tulips must have attention in order to attain their full size and beauty, and replanting now and then is almost essential with a Tulip garden if we are to keep the bulbs free from disease. The wood Tulip and certain wild species may be naturalised, and in that state are as beautiful, if not so large, as the cultivated bulbs.

PEONY AND POPPY.

Peonies are effective in many ways. Where single or other kinds are plentiful they may be well used as broad groups in new plantations, among shrubs and low trees, and as to the choice double kinds,

soils, very easily grown, and they are showy spring flowers in bold groups, especially some of the improved varieties.

PANSIES.

The Viola family is most precious, not merely in the many forms of the sweet Violet, which will always deserve garden cultivation, but in the many forms of the Pansy, which flower so effectively in the spring. The best of all perhaps for artistic use are the Tufted Pansies, which are delightfully simple in colour—white, pale blue, or lavender, and various other delicate shades. Almost perennial in character, they can be increased and kept true, and they give us distinct and delicate colour in masses as wide as we wish, instead of the old "variegated" mixture of Pansies. Though the separate flowers of these were often handsome, the effect of the Tufted Pansies with their pure and delicate colours is more valuable, and these also, while pretty in groups and patches, will

where there be space, often be worth growing in little nursery beds.

In all chalky, sandy, and warm soils the early Stocks for spring bloom are very free and fragrant, but it is a waste of time to attempt to grow them on certain cold soils. The common perennial Lupine is a very showy, pretty plant grown in a free way in groups and masses, and may sometimes be naturalised, and, associated with Poppies and free *in situ*. Columbines in the wild garden, it is very effective.

FORGET-ME-NOTS

are among the best flowers of spring. Before the common and most beautiful of all—the marsh Forget-me-not—comes, there are the wood Forget-me-not (*M. sylvatica*) and *M. diffusiflora* and *M. alpestris*, all precious for spring gardening. Allied to the ever-welcome Forget-me-not is the common Omphalodes, or creeping Forget-me-not, a good border plant, but more valuable still for its freedom in growth in half-shady or rough places in almost any soil—one of the most precious of the plants which take care of themselves, so to say, if we take a little trouble to put them in likely spots. Among

ANNUAL FLOWERS THAT BLOOM IN SPRING

where the soil is favourable, excellent results are often obtained by sowing Sweet Peas in autumn. Where this is done, and they escape the winter, they give welcome hedgerows of flowers in the early year. So, too, the Cornflower, a lovely spring flower, and perhaps the finest blue we have among annual plants; but to have it good and early it should be always sown in autumn, and for effect it should be in broad masses among shrubs. Some of the Californian annuals are very handsome and vigorous when sown in autumn, always provided they escape the winter. The white Godetia we have had very fine in this way, and some annuals and biennials, like the wood Forget-me-not, are worth sowing in the early autumn here and there among newly-planted things. It would be taking too narrow a view to omit from our thoughts of spring gardens the many beautiful

FLOWERING SHRUBS AND TREES THAT BLOOM IN SPRING,

as some of the finest effects come from the early trees and shrubs. Among the most stately are the Chestnuts, particularly the red kinds, fine in all stages, but especially when old. The snowy Mespilus is a hardy, low-sized tree, blooming regularly, and well deserves a place in the pleasure garden or the fringes of shrubberies. The Almonds, more than any shrubs, perhaps, in our country, light up the earliest days of spring, and, like most southern trees, are best in warm valley soils, growing more slowly in cool, heavy soils. They should be in groups to tell in the home landscape. Perhaps of all the shrubs ever brought to our country the hardy Azaleas will, in the end, be found best, the most constant in bloom,

and the most effective. They are raised from kinds that are wild on the mountains of America and one European kind, and many forms have been raised in gardens which are of the highest value in effect. Many places do not as yet show the great beauty of the different groups of hardy Azalea, particularly the late and large-flowered kinds raised of recent years, which are better than the old Azaleas. A neglected tree with us is the Judas tree, which is very handsome in groups, as it ought always to be grown, and not as a starved single tree. The various double Cherries are well suited for our country, being showy as well as delicate in bloom, and the Japanese kinds do quite as well as the old French and English double Cherries, though the trees are apt to perish from grafting. The American Fringe tree (*Chionanthus*) is pretty, but some American flowering trees do not ripen their wood well enough in England generally to give us the handsome effects seen in their own country. Hawthorns are a host in themselves; those of our own country make natural spring gardens of hills and rocky places, and should teach to give a place to the many other species to be found in the mountains of Europe and America, which vary the bloom and prolong the season of early flowering trees, and there are many varieties of our native Hawthorn—red, pink, double, and weeping. The old Laburnum has for many years been a joy with its golden rain, and of late we are doubly well off with improved varieties of the alpine Laburnum, with long chains of golden flowers. These will form the noblest flowering trees as they get old, hence the importance of grouping Laburnum trees that look well in any place, but it is better to get the varieties together, so that the different forms may come well into the picture.

BROOM AND FURZE.

There is no more showy plant or one more beautiful in effect in masses than the common Broom and all its allies that are hardy enough, even the little Spanish Furze giving fine colour. The common Broom should be encouraged on bluffs and sandy or gravelly places, so as to save us the trouble of growing it in gardens, for in effect there is nothing better. The same may be said of the Furze, which is such a beautiful plant in England, and the double Furze deserves to be massed in the garden in picturesque groups. In country seats, especially those commanding views, its value in the foreground is very great, and it is so easily raised from seed, that fine effects are very easily secured. Among the more refined charms of the spring garden are the slender wands of the Forsythia, hardy Chinese bushes, pale greenish yellow, delightful in effect when massed in a picturesque way; effective also on walls or grouped in the open air on banks. Another plant of refined beauty, but too little planted, is the Snowdrop tree (*Halesia*). Unlike other American trees, it ripens its wood in our country well, and often flowers very effectively. The mountain Laurel of

America (*Kalmia*) is one of the most beautiful things ever brought to our country, and as a late spring flower is precious, thriving both in the open and in half-shady places.

RHOODODENDRON AND MAGNOLIA.

The glory of spring in our pleasure grounds are the Rhododendrons; but they are so over-mastering in their effect on people's minds, that very often they lead to neglect of other things. It would be difficult to over-rate their charms; but even amongst them we require to discriminate, and avoid the too early and tender kinds. Many of the kinds raised from *R. ponticum* and the Indian Rhododendron, while they thrive in mild districts in the south of Ireland and England, and by the sea here and there, are not hardy in the country generally. Some of these tender hybrids certainly flower early, but we get little good from that. The essential thing, when we give space to a hardy shrub, is that we should get its bloom in perfection, and therefore we should choose the broad-leaved kinds, which are mostly raised from the hardy North American *R. catawbiense*, and be a little particular in grouping the prettiest colours, never using a grafted plant.

For many years the Magnolia has, when well grown, been one of the finest trees in English southern gardens. Nothing is more effective than the Lily tree in gardens like Syon and others in the Thames valley; and of late years we have seen good additions to this the noblest family of flowering trees. Some of these, like *M. stellata*, have proved to be valuable; all are worth a trial, and, as to the kinds we are sure of, the great thing is to group them. Even in the case of the common Lily tree it makes a great difference whether there are four or five plants or one.

Pyrus japonica, a handsome old shrub often planted on cottage garden walls, may in many soils be used with good effect in groups and hedges. The evergreen Barberries in various forms are beautiful early shrubs, with soft yellow flowers, and excellent when grouped in some quantity. Two very important families are the Deutzias and Syringas, which are varied and beautiful, mostly in white masses. They should never be buried in the common shrubbery, but grouped in good masses of each family. The flowering Currant (*Ribes*) of the mountains of N.W. America is in all its forms a very cheery and early bush, which tells well in the home landscape if rightly placed; but perhaps the most welcome and important of all early trees and shrubs is the Lilac, which is often neglected or grown in one or two kinds only, when there are many. Beautiful in almost any position, Lilacs are most effective when planted together, so as to enjoy the full sun to ripen their wood; the danger of thick planting can be avoided by putting Irises or other hardy flowers over the ground between the shrubs, which should never be crowded.

ORCHARD BEAUTY.

We must not lose sight of the orchard trees, as nothing made by man is so beau-

tiful in spring as an orchard. If we see such fine effects where orchards are poorly planted with one kind of tree, as the Apple (and in many country places there are no orchards worthy the name), what might not be expected of an orchard in which the beauty of all our hardy fruit trees would be visible! If we consider the number of distinct species of fruit trees and the many varieties of each, we may get some idea of the pictures one might have in an orchard, beginning with the bloom of the Sloe in the fences. The various Plums and Damsons are beautiful in bloom where they are grown in quantity, as in the Thames valley and about Evesham. The Apple varies much in bloom, as may be seen in Kentish orchards, where the flowers of some are of extraordinary beauty. The Pear, less showy in colour, the Medlar so beautiful in flower and in foliage, and the Quince, so pretty in bloom in Tulip time, must not be omitted. The Cherry is often a beautiful tree in its cultivated as well as wild forms, and the Cherry orchards in parts of Kent, as near Sittingbourne, are pictures. There is no better work than choosing a piece of good ground to form an orchard; and, considering the number of trees that are worth a place for their beauty as well as their fruit, a dozen acres are not too much in country places where there is land to spare.

CRAB BLOOM.

Apart from the many orchard trees grown for their fruit, we have in our own day to welcome some of their allies—lovely in flower, if often poor in fruit. Our country has never been without some of this kind of beauty, as the Crab itself is as handsome a flowering tree as are many of the Apples which are descended from it in all the countries of Europe, from Russia to Spain. And in our gardens in past days there were for many years the old Chinese double Pyrus, a very handsome tree which became popular, and the American Crab, which never became so. But of late years we have been very much enriched by Japan in these ways, and many of us have been charmed to see the beauty of the Japan Crab (*Malus floribunda*), which is certainly a lovely tree for some weeks in spring, and bids fair to become a favourite everywhere. At least two others, however, deserve the same fate; one is Parkman's Crab, which comes to us under more than one name, and the other a red form of the Japanese flowering Crab before mentioned. All these trees are as hardy as our native Crab, and differ much in colour and sometimes also in form. It is difficult to describe how much beauty they give when well grown and placed; they are not the kind of things we lose owing to change of fashion, and, in planting them, it is well to put them in groups where they will tell. Apart from these more or less wild species there are numbers of hybrid Crabs—raised between the Siberian and some common Apples in America and in our country—that are beautiful also in flower, and remarkable, too, for beauty of fruit, so that a beautiful grove of flowering trees might be

formed of Crabs alone. With these many fine things, and the various Honeysuckles, we are carried bravely down to the time of Rose and Lily—summer flowers, though Roses often come on warm walls in spring.

SPRING FLOWERS IN SUN AND SHADE.

It is worth while thinking of the difference in the blooming of spring flowers in various aspects. Daffodils do better in half shade than in full sunshine, and Scillas and other bulbs are like the Daffodils in liking half-shady spots; so also Crown Imperials, which, like the Scillas, bleach badly if fully exposed to the sun. We may see the Wood Hyacinth pass out of bloom on the southern slopes of a hill, and in fresh and fair bloom on its northern slopes. Flowering shrubs, creepers on walls and all early plants are influenced in the same way. Such facts may be taken advantage of in many ways, especially with the nobler flowers that we make much use of. If different aspects are worth securing for hardy flowers generally, they are doubly so for those of the spring, when we are more liable to sudden storms of snow and sleet that may destroy an early bloom. If fortunate enough to have the same plant on the north side of a hill or wall, we have still a chance of a second bloom, and a difference of two or three weeks in one place in the blooming of a plant.

Let all who love the early flowers look at this list—not one of the kinds of spring flowers (which are innumerable), but of the families, while some of these, such as Narcissus and Rockfoil, are large groups of lovely flowers, and the story of these, too, is the story of the spring.

SOME SPRING AND EARLY SUMMER FLOWERS HARDY IN ENGLISH GARDENS.

Adonis	Eranthis	Omphalodes
Alyssum	Erica	Ornithogalum
Andromeda	Erinus	Orobous
Androsace	Erodium	Paeonia
Anemone	Erythronium	Papaver
Aquilegia	Ficaria	Phlox
Arabis	Fritillaria	Polygonum
Arenaria	Fumaria	Potentilla
Armeria	Galanthus	Primula
Asperula	Genista	Pulmonaria
Asphodelus	Geum	Ramondia
Aubrietas	Gypsophila	Ranunculus
Bellis	Helleborus	Sanguinaria
Caltha	Hepatica	Saponaria
Centauraea	Hesperis	Saxifraga
Clematis	Hyacinthus	Scilla
Crocus	Iberis	Sedum
Convallaria	Iris	Sesame
Cyclamen	Leucojum	Trollius
Daphne	Linum	Triteleia
Dentaria	Lobelia	Trollius
Dianthus	Mecanopsis	Tulipa
Dicentra	Muscari	Uvaria
Dodecatheon	Myosotis	Veronica
Doronicum	Narcissus	Vinca
Draba	Nemophila	Viola
Epimedium		

Of spring-flowering trees and shrubs hardy in British gardens the following are among the most effective:—

Erythronium	Cerasus	Daphne
Amelanchier	Cercis	Deutzia
Amygdalus	Crataegus	Erica
Azalea	Cydonia	Exochorda
Berberis	Cytisus	Forsythia

Genista	Mespilus	Styrax
Halesia	Philadelphus	Syringa
Kerria	Prunus	Tamarix
Laurus	Pyrus	Ulex
Lonicera	Rhododendron	Viburnum
Magnolia	Ribes	Weigela
Mahonia	Spartium	Wistaria
Malus	Spiraea	

W. R.

STOVE AND GREENHOUSE.

BOUVARDIAS.

As the Chrysanthemum season draws to a close the anxiety of those who have to keep up a continuous supply of flowers increases, as these plants afford such a rich harvest of bloom suitable for all purposes, that unless steps have been taken to secure good batches of other things to succeed them their loss will be still more obvious. For such a purpose I look upon Bouvardias as indispensable, especially where grown under such conditions as to incur a minimum of labour and expense during the summer months and affording a wealth of choice bloom at a most trying season. In growing Bouvardias successfully, gardeners in the south have a decided advantage over those in the north, inasmuch as the latter, owing to climatic influence, have mainly to keep to pot culture under glass, and although good plants are raised in this way, the quantity of bloom is not nearly so great as can be obtained from plants which have been planted outdoors during the growing season. The chief reason why Bouvardias do not succeed well in many gardens is due, I consider, to giving the plants too much heat and not affording a season of rest, as I find when kept in a humid house the growth becomes weak compared with that of plants given full exposure. The advantage gained by planting in a sheltered outside border, when given ordinary care and attention, over plants that have been raised in pots will be patent to all who are in a position to give both systems a trial. Pot plants whose roots are restricted are naturally less vigorous than those that have more freedom, and the shoots, therefore, cannot stand so much stopping, with the result that the one plant is twice the size of the other by the end of summer. This is not all, as those with the greatest amount of healthy roots are in a condition to throw up strong growths from the base after the plants are housed. These in turn will give a second crop of bloom equal, if not superior, to the first lot, while the plants by being fully exposed require little or no fire-heat until frost is sufficiently severe to necessitate its being used, and the flowers thus produced having more substance will stand much longer when cut.

RESTING THE PLANTS.—As the plants go out of flower towards spring, a few weeks' rest will be beneficial by withholding water from the roots and placing them in a dry house or pit, which will induce most of the foliage to fall, the same as one would treat Fuchsias in the autumn. The wood will then become well ripened and will break more strongly when the time arrives for cutting the plants back and starting them again into growth, which should be towards the end of April.

STARTING THE PLANTS at this date may appear rather late, but I find nothing is gained by doing so earlier, as the fire-heat would be required, which, as before stated, causes weak growth, and to build up strong plants, cool treatment with plenty of air from the first is very necessary. The plants after having been cut back should be placed close to the glass in a

cold frame, water being withheld until growth has commenced, encouraging this by dewing the plants over each evening and closing the lights. As the young shoots appear more air is afforded; in fact, the lights may be removed entirely during mild showery weather, and by being fully exposed to the sun, the growth at first may appear slow, but it is very sturdy and very different from that made in a close, moist atmosphere.

PLANTING OUT.—By the end of May or beginning of June, the shoots having attained an inch or two in length and just as the roots become active, the plants should be placed in their summer quarters, which should be a sheltered border, but fully exposed to the sun. Before doing so, however, see that each ball is thoroughly moistened, and in planting, carefully reduce most of the old soil. If the soil is fairly good it is not necessary to manure the border previous to planting, but add a spadeful or two of good compost round the roots as the work proceeds, the aim being to keep these close to the stem. The plants should be placed quite 2 feet apart, as when closer they are apt to get thin at the bottom before autumn. One or two waterings may be necessary to start the plants, after which the chief thing required is regularly stopping the shoots, and as growth will be rapid the plants should be looked over for this purpose every fortnight, the last stopping taking place towards the end of August or some ten days before the plants are lifted. In lifting the plants select a dull day if possible, and see that the soil is thoroughly moist before doing so. If it is decided to flower the plants on the borders in Melon or Tomato houses, all that is necessary is to lift the plants with a good ball of earth, filling in between the roots with good soil. Give a copious watering, keep the foliage well syringed, and afford plenty of ventilation. The plants will soon become established, and will not fail to give abundance of bloom from the end of November onwards. It is not, however, in all gardens that houses can be devoted to these plants, as they are often required for other things early in spring before the Bouvardias have done flowering, in which case it would be better to pot the plants, so that they may be taken to different houses as required. The advantage gained with pot plants is that they can be kept outside much later, which will not only retard their flowering, but the plants become well established before being placed under cover.

I have a houseful of plants which have received this cool treatment just coming into bloom. They are all that can be desired, and will supply an almost unlimited quantity of bloom for some months to come. I may add that though all varieties have done remarkably well I find that the double ones require a little more warmth when the flowers are opening.

Glossarial.

R. PARKER.

Daphne indica alba—This is doubtless one of the most charming and exquisite of all fragrant flowering shrubs. A few sprays in water before me gathered from a pot-bound plant are sufficient to scent an ordinary sized room, and nothing could be more welcome than the fragrance they shed around. The plant is an old inhabitant of our gardens and of comparatively easy culture, yet it is only rarely that good plants are seen, and less frequently that they are well flowered. It is generally supposed to be a peat-loving plant, though I have not found it so, as the best and most vigorous plants I ever had were grown in the yellow loam of Banstead without peat. A uniformly cool place I have proved to be of great benefit; indeed, plants each several feet through and possessing the strength and vigour

almost of Laurels go a long way to prove what is the correct treatment of the plant. These specimens had, however, been planted out in good deep loam at the base of a high wall in a corridor. The plants never felt the sun's rays, and by plenty of freedom at the root, the growth was remarkable and flowers were plentiful,—T.

Pleroma macranthum for roofs.—This, which is quite as well known under the generic name of *Lasiandra* as that of *Pleroma*, does not get its merits as a plant for the greenhouse roof sufficiently recognized, for it is seldom seen so treated, though it is one of the most beautiful subjects that we have for such a purpose. This autumn, as usual, it has been very fine in No. 4 greenhouse at Kew, and should form a good object lesson to the many visitors there. The rich purple blossoms supply a colour which is but little represented among indoor plants, being more in the way of Clematis Jackmanii. Some of the *Pleromas*, *P. elegans*, for instance, are difficult plants to cultivate successfully, but no such thing can be urged against *P. macranthum*, which will grow freely in an ordinary greenhouse temperature, while it will also thrive if kept somewhat warmer. It is not at all difficult to strike from cuttings of the young growing shoots put in during the spring months, but preference should be given to shoots of moderate vigour rather than the very strong ones. A very suitable compost is a mixture of loam and peat, with a liberal dash of rough silver sand. This *Pleroma* is a stock plant in most nurseries, but if kept for some time in comparatively small pots for convenience of transit, it is sometimes difficult to get it to grow away freely afterwards.—H. P.

Miss Joliffe Carnation.—I notice in THE GARDEN (p. 439) a paragraph by "C. H." on this Carnation and mildew. He says it is very apt to die off suddenly, and is liable to attacks of this disease. I think if the first principles of growing Carnations under glass were adhered to, there would be no cause for complaint on this head. I mean by these, plenty of air, plenty of room, and very little water. I have never seen mildew here, and I have grown quantities of this variety for the last ten years. Your correspondent calls Miss Joliffe "the grandest of all pink-flowered Carnations." It is to this that I beg to take exception. For some years there have been several varieties in commerce that are very superior to Miss Joliffe both in size and quality, but of the same lovely colour. Reginald Godfrey, for instance, is a far larger and better bloom and equally free-blooming, but what surpasses all others is Mistral, which is the best winter-flowering variety of this colour that I have yet seen. I have grown it in various places and have sent away large quantities of it, and it has been universally admired by all growers of winter-flowering Carnations. Miss Joliffe is largely used for button-holes. At this time of year you will always see it in florists' shops, but to make the bloom of sufficient size, three or four are wired together, which gives it a lumpy appearance. Mistral is quite large enough to stand alone, and a single bloom of it elegantly mounted is infinitely more graceful than a bunch of Miss Joliffe.—H. W. W. CELIN, Shaldon, Teignmouth, Devon.

Cyclamen at Bush Hill Park Nursery.—Messrs. Low & Co. have long made a specialty of Cyclamen, and at the present time their strain is unsurpassed. Their stocks too, are one of the largest in the trade, houses after houses being filled with plants in various stages of growth. Though not yet quite at their best, they are sufficiently forward to judge of what they will be later, and I have never seen a more promising lot of plants. The various shades of colour are grown together, each variety being kept separate when the seed is saved. It is remarkable how true each variety keeps. The colours range from pure white to the deepest shade of crimson. Among the whites there is an interesting variety with a feathery growth on each petal, almost like an additional petal, but it is attached throughout its length, which is nearly the length of the normal petals.

Another interesting feature is a house full of plants grown from German seed. Messrs. Low & Co. having heard it expressed that the German Cyclamen were better than the English, secured some seed from the leading German growers. Most of the plants have their first blooms out, but they certainly do not compare favourably with those of their own strain, the flowers being much smaller and the colours not so distinct. The habit of growth is their best point, being compact, with broad foliage, which is distinct from that of most English strains. The vigorous growth shows that the German strain has been under equally good treatment as the home strain.—VISITOR.

GARDEN FLORA.

PLATE 1096.

BEGONIA GRACILIS.

(SYN. B. MARTIANA.)

(WITH A COLOURED PLATE.*)

This is one of the most beautiful of the species of Begonia that have a tuberous root-stock and annual stems. Hitherto, however, it has not become generally grown, owing, I believe, to the poorness of some of the forms of it which have been introduced, for it is one of the most variable of Begonias, and some of the varieties are miserable both in stature and floral attractions compared with the best forms of it, one of which is represented in the accompanying plate. Probably, too, some cultivators have discarded it because of its failing to grow well under ordinary treatment. When well grown, however, it is a most charming plant for the greenhouse. It is also a first-rate plant for the flower garden; at any rate, it proved such in the Cambridge Botanic Gardens this year. Mr. Lynch having planted it in a round bed on one of the lawns; and when I saw it in October it was exceptionally charming, the stems being from 1 foot to 18 inches high, clothed with sturdy foliage and rich pink flowers. Mr. Lynch starts the tubers at the same time and in the same manner as the ordinary tuberous Begonias, planting them in the open ground at the same time. Their stems, however, require to be supported with stakes, and a position sheltered from wind is preferable for them. Grown in pots, this species should be started in a little warmth in February, potted in light loam and leaf-mould and kept near the glass, shading it from bright sunshine. During the summer a cold, airy frame or light greenhouse suits it. Under warm treatment the stems grow spindly and the flowers are thin and wanting in colour.

B. gracilis was first introduced from Mexico in 1829, when it flowered in the garden of Mr. P. Neil, of Cannomills, Edinburgh, and was figured in the *Botanical Magazine*. Unluckily, this was a bad variety, as is shown by the figure. In the description it is stated to have climbing stems. Being widely distributed in Mexico and so varied in stature, &c., it has been named several times, and is still grown in some gardens as *B. Martiana*, *B. diversifolia*, and *B. bicolor*. About half a dozen varieties of it have been named, one called *grandiflora* by M. Lemoine, and having large flowers of a rich carmine colour, being perhaps the best; the form called *bicolor* is also a good one. According to Mr. C. C. Pringle, who has collected specimens of this Begonia in various parts of Mexico, it occurs in regions where there are severe frost and snow. Some years ago I saw

* Drawn for THE GARDEN by H. G. Moon in the Royal Gardens, Kew. Lithographed and printed by J. L. Goffart, successor to Guillaume Severyns.

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BEGONIA MANDARINA (L.) BURM. var. CORDIFOLIA

in the gardens of Mr. Chamberlain at Highbury some plants which were hybrids between *B. gracilis* and an Andean species or variety. I have not heard of these since, and, so far as I know, no good cross has yet been raised from *B. gracilis*, although it appears to have all the merits of a good breeder.

The tuber is white, smooth, more or less kidney-shaped, and up to 2 inches in diameter. The stems are erect, from $1\frac{1}{2}$ feet to $2\frac{1}{2}$ feet high, unbranched save near the top, unless pinched when young. The leaves are pale glistening green, variously lobed, and very succulent. The flowers are borne in axillary racemes, and in a good variety they are large, of good substance, and of a rich carmine colour, as shown in the plate. Seeds are ripened freely, and in addition to these, as a means of reproduction, myriads of small seed-like bulbils are developed in the axils of the leaves and in the basal sinus of the leaf-blades. These should be gathered and sown at once in a pan of rather dry soil, placing them upon a shelf in a greenhouse, to be kept dormant till spring. For the multiplication of good varieties these bulbils are, of course, preferable to seeds, as they reproduce all the characters peculiar to the parent plant. During the winter the tubers should be rested along with those of the common tuberous Begonias.

W. W.

THE WEEK'S WORK.

FRUIT UNDER GLASS.

CHERRIES.—Where ripe Cherries are required by the end of April or early in May, preparations should now be made for starting the trees. If treated as previously advised they will have had a good rest, and should therefore start readily into growth. For the first supply, trees grown in pots are preferable, as the greater variety can thus be had in a limited space. It is useless to attempt to force trees that have recently been taken up from the open ground and potted; they should have been established at least one year. For this reason it is always well to procure a stock of young trees each autumn, potting them up, and afterwards plunging them in the open ground, when if any of those which have been forced the previous year should show signs of exhaustion, others will be in readiness to take their place. Cherry houses should be well ventilated, and have sufficient piping in them to prevent the necessity of over-heating to keep up the requisite temperature. Where it has been necessary to rearrange the hot-water apparatus, care should always be taken to have the boiler so fixed, the mains so arranged, and the valves placed in such positions that each house may be worked independently, for when the heat has to pass through one house before it can reach the next, much inconvenience and waste of heat always occur. Previous to introducing the trees, see that both woodwork and glass are thoroughly cleaned. The trees themselves should also be washed with some kind of insecticide, taking care not to injure the buds in doing so. The pruning of the pots should then be removed and replaced with a top-dressing. This should be well rammed down to make it firm, that the young fibres may be more readily take hold of it. Cherries will not stand hard forcing; therefore it is preferable to start the house a week earlier than to attempt to hurry them on by too much fire heat, as this would only result in failure. In dull, cold weather the heat should not exceed 40° , but on bright, mild sunny days the thermometer may be allowed to run up to 50° or even 55° , provided plenty of air at the same time is afforded. If there is a prospect of a fine mild day, the ventilators ought to be opened a little earlier in the morning to prevent a too sudden rise of the temperature, and as the heat increases

more air should be given. The trees may be syringed twice daily when the sun is bright, but when dull, once will be sufficient. Particular attention must be exercised in watering, for if once the roots are allowed to become dry, the flower-buds will not develop properly. When the buds commence to swell, a sharp look-out should be kept for the black fly, for if the first of these that are hatched be destroyed, it will lessen the work of keeping the trees clean afterwards. The flower-buds should occasionally be looked over, as it is on these that they first make their appearance.

PLUMS.—Where a variety in the dessert seems to be kept up a few trees of these in pots may be introduced into the Cherry house, as the same treatment will answer for both. The trees should be prepared in the same way as recommended for Cherries. They may, however, be pruned either to assume a gridiron shape, kept as pyramids or cordons. In either case it will be necessary that they should be thoroughly established before attempting to force them. Early varieties are the most suitable for the purpose, such for example as the Early Gage, Dennison's Superb, Stint, Royal Native, July Gage, Purple Gage, De Montfort, Early Transparent and others. These like the preceding, object to too much fire-heat; therefore gentle forcing only should be adopted. A close look-out must be kept for black fly, which is sometimes very troublesome to trees when grown under glass; this should be destroyed on the first appearance.

EARLY PEACH HOUSES.—The trees in these will now be swelling their buds rapidly; as soon as the colour of the flowers can be seen syringing ought to be discontinued till the fruit is set. It is, however, advisable to look carefully over the shoots to see if there are any signs of green fly, as these sometimes make their appearance just as the buds are expanding. If any are found these should be at once destroyed, for by so doing the trees may be kept clean till the fruit is set. Be careful not to excite the trees too much by fire-heat; better by far when the nights are frosty and the days allow a greater range of temperature than follows the orthodox rule of adhering to a fixed degree. If we followed Nature's teaching a little in this respect there would be less harm done. It is one of the greatest mistakes that could be made to insist on the temperature of fruit houses being kept up to a certain degree when that of the outside is down so low. There is, however, a limit that must not be passed, as a very low moist atmosphere is apt to encourage mildew, while the opposite would prevent the flowers being properly developed, and such would therefore fail to set any fruit. If we take notice of the weather we shall find that Peaches set more freely out of doors, when the flowers open gradually, than when they are forced into bloom, as it were, by summer-like weather in the early spring. The weather at this time of the year is often very treacherous, as sometimes it will be so very mild that fire-heat in such structures can almost be dispensed with, while at others it is so cold as to be of almost an arctic nature. When the nights are frosty we often have a clear sky, therefore bright sunshine in the day, which runs the temperature of the houses up very quickly indeed, unless precaution be had to look to ventilation in time. These many days must be carefully noted, or much harm may be done in fruit houses owing to the temperature rising too high. From 40° to 45° at night will be ample till the fruit is set, after which growth may be encouraged more rapidly.

SUCCESSION HOUSES.—The trees in these should be pruned and cleaned, taking care also to wash the woodwork and glass to rid them of the larvae of any insect pests. All bare walls should receive a coat of limewash to which a little sulphur has been added, as this will help to keep the house clean till the crop of fruit is gathered. When all has been cleansed, the trees should be neatly tied to the trellises, taking care to leave sufficient room for the wood to swell. The border should then be loosened and have a top-dressing

of some artificial manure. Give a thorough soak so that every particle of soil may be moistened. The house may then be thrown open both night and day except in frosty weather.

GENERAL WORK.—Any pipes in fruit houses that are not required to be used for the present should be emptied to prevent the frost from splitting them; care must also be taken to protect any boilers not in use that are in exposed places, for it is not safe to leave them longer without something to ward off the frost. Should severe weather visit us so as to put a stop to general outdoor work, cutting of Goosberries and Currants could be made ready for planting, where such work has not already been done; and, when the ground is frozen hard set out to dry under foot, have all trees possibly mulched, as wheeling may be done with far greater ease when everything is hard and dry. Do not expose Oranges by too much fire-heat. Where these are grown in houses especially set apart for them a gentle warmth should be maintained in the hot-water pipes to prevent the temperature from falling too low, but no more heat should be applied than will maintain the night temperature at about 45° till it becomes necessary to start the trees into growth again.

H. C. PRINCEP.

KITCHEN GARDEN.

MUSHROOMS.—With a brisk demand the making up of Mushroom beds ought to be as continuous as possible, as the supplies are seldom overdone and the crop is a little precarious as to time of turning in, and no grower can with any certainty guarantee from any one bed a supply in a given time, especially when that time is reduced so low from six to eight weeks. For example, each bed that I have made since August has taken exactly nine weeks from the time of spawning until I have commenced to cut, but these beds have been either in a cellar with artificial heat or in a house where 50° is the maximum temperature when the weather is at all cold. This slowness, however, is not a thing to be regretted, as crops are good and the Mushrooms extra healthy in fact that they would have been if given more heat. Another thing which should incite all private growers to only allow a short interval between the making up of beds is that beds will occasionally turn out failures, and such should be provided for. Of course we now and then read of growers who have never had a failure during a period lasting over ever so many years, but I fear that such cases are very exceptional indeed, and young growers should never allow themselves to fall into the state of false security which such statements are calculated to engender. Good supplies of Mushrooms can be had in most places without the assistance of an elaborately fitted-up Mushroom house, and there are but few places which can boast of a heated greenhouse or two where room could not be found for, and winter Mushrooms grown on, beds in cosy corners in sheds or other such places, through or below which the hot-water mains may pass and give off heat enough to keep a growing temperature around such beds, which must of course be kept covered to prevent the surface from getting too dry. I often regret the loss of heat which is so common in most places from having the main hot-water pipes rigidly braced instead of easily covering them with something easily moved, so that the heat they give off may be utilised to advantage in the forcing season, and for my own part I am never content until I can command all sources of heat and use them to assist the supplies from the forcing quarters proper. The oldest Mushroom beds will now be somewhat spent, and should, if at all dry on the surface, get a good watering, sufficient to thoroughly damp the soil casing, but not to soak far into the manure. For this watering I advise, where possible, the use of stable drainings made in a clean state and well diluted with clear water, but if this is not available, a good handful of salt in a big can of water will have a similar effect—that is, it will lead to the production of a good second crop. This will,

however, hardly be a satisfactory one unless the method adopted by the best growers of taking out the whole of the Mushroom and the hard substance underneath it when gathering and filling up the holes so made with fresh soil has been followed, as the old stumps and roots lead to decay when left in the beds, while their removal imports fresh vigour to the spawn remaining. Whatever water is used should be comfortably warm and be put on gradually and evenly, and not allowed to run over the surface of the bed in undue proportion on the lowest parts of the beds. Dry soil of the atmosphere surrounding Mushrooms is bad, but should not be counteracted by the daily use of the syringe on the beds, which is only a makeshift method for countering indifferent treatment, and most in vogue by those who advocate a high temperature for the Mushroom house and maintain such by overheating the pipes. A slight damping down of the floors now and then, combined with a low temperature, rarely exceeding 50°, will usually keep the atmosphere at its best.

ASPARAGUS.—The forcing of Asparagus can now be easily accomplished with the most ordinary hotbed treatment; the principal points to remember are to make sure that the bed of leaves and manure is sufficiently bulky and well trodden to retain its heat long enough to carry the crop. With a good supply of leaves this is easily accomplished, better without than with a large quantity of stable manure being mixed in with them. My practice is from now onward to put from 4 feet to 5 feet depth of leaves into deep pits, the leaves being carted direct to the pits as gathered, and put in at once without the usual turning and mixing, and as the filling and covering proceed, thin layers of, say, one-fourth of stable manure are mixed in until the pits are full. All is thoroughly well trodden, and if the leaves are dry they are slightly sprinkled. Beds made in this way do not get overheated and retain the heat long enough to carry a crop of forced Potatoes, which are planted directly the Asparagus is over and up, with the soil, with the addition if the bulk is not sufficient at the time of planting. I usually soil the beds and plant the Asparagus directly the pits are filled, there being no need to wait until the heat has been tested, as would be necessary if a greater bulk of manure were used. Very little soil is required under the Asparagus, but sufficient should be used for covering to permit of at least 3 inches of growth being made before the heads show through. If the crowns are not barely covered, the shoots will not be nearly so good in quality as they will if more covering is used, and many will also become bent and unshapely. The soil I use is light, and consists principally of accumulations from the Cucumber frames and from the frame crops generally.

IMPROVING SOILS.—In gardens where the soil is not entirely satisfactory it should be the aim of those in charge to bring each year a portion large or small into better condition. Clay soils are generally more or less troublesome to work and some clays are very bad indeed, the weather and state of the ground having to be very closely watched to permit of their being worked at all in a satisfactory way. At the same time, it should be remembered that such soils are generally the most productive, and whatever method is chosen to ameliorate their condition should not be too drastic or carried too far. Probably the best method of dealing with troublesome clay soils is to break a portion of the surface soil sufficiently to destroy its tenacity, spreading and digging it in later on; this will have an excellent effect, and no better time than early winter can be chosen for the work. The method of burning is simple, and the only material required is some slack coal, plenty of which can generally be found in cokeholes and some kindling wood. Small heaps of this should first of all be got well alight here and there all over the plot which is to be treated; each heap should then be banked with cinders of soil cut out roughly and not too closely packed, as room should be left between crevices for further supplies of the slack, and the heaps should have both

soil and slack added to them from time to time, taking care, on the one hand, not to smother the fire entirely with too great a weight of soil, and, on the other hand, not to allow the fire to break through and burn fiercely. Of course, much may be done in the way of improvement by digging in all available light material, such as leaf-mould, tan, decayed cocoa-nut fibre, and the like, but these things can rarely be had in sufficient quantities to make any appreciable difference for some years, and burning as I suggest will surely be found the best and quickest way of dealing with such soils. The addition of light material may also be done by sowing various measures. In writing thus, I am taking for granted that the soil is already well drained if not, this should be the first thing done and the result watched for a year before further measures are taken, as many so-called heavy soils only require draining to bring them into excellent condition. Light soils are less troublesome, if less productive, and if over-light may readily be improved by having a coating of marl, i.e., clay which becomes disintegrated under the action of frost, spread on the surface in early winter and dug in in spring. This coating should be more or less heavy according to the degree of lightness of the staple soil. Over-rich soils are not uncommon in gardens where manure has been easily obtained over a number of years. The plants grown will generally betray ground of such a nature, as the growth is gross, though unfruitful, and many things are particularly liable to flag under a light sun even when the soil is not dry. If either of these symptoms has been noted on the crops, ordinary manures should be withheld for a time and lime should be freely used as a substitute, as this will set bottled-up manurial properties free and bring the soil back into a sweet state.

J. C. TALLACK.

ORCHARD AND FRUIT GARDEN.

APPLE GOLDEN WINTER PEARMAIN.

I GLADLY reply to "A. W.," Stoke Edith. As to the above being identical with King of the Pippins, I think the two varieties are quite distinct, and will give my reasons as briefly as possible. At the same time I must congratulate "A. W." on his interesting note on the origin of these varieties. Such notes are read with great interest by those who study fruit culture, and form a welcome addition to our limited store of knowledge concerning the introduction of some of our most useful fruits. "A. W." must have hastily read my note. If he will kindly refer to my note he will find I stated that soils must have much to do with the quality of Golden Winter Pearmain. In Devon it was equal to King of the Pippins, and doubtless I ought to have added in some other parts it is inferior, as I inferred as much by my selecting a favoured locality. In Monmouthshire it was always good in crop and quality, and doubtless in "A. W.'s" adjoining county it is the same, as he gives us a good report of the varieties in question. I regret to say the cropping and eating qualities differ in certain soils, and I am induced to place King of the Pippins first for general culture in poor land. In no note I referred to King of the Pippins, and notto Seek no Further. I am at variance with "A. W." as to these two kinds being distinct. I think they are the same, and can see no difference whatever; in fact, most of our large fruit tree growers only recognise them under the name of King of the Pippins. In several counties I have lived in and at my home in the adjoining county to Stoke Edith—Worcestershire—it was always known as Prince's Pippin, and I am of the same opinion as quoted at p. 405. I think Golden Winter Pearmain the

less valuable of the two kinds. I also note reference is made to the Apple congress at Chiswick in 1883. "A. W." states that the conclusion arrived at was that all three kinds were one and the same thing, and that anyone would be disqualified if exhibiting them as distinct. This does not agree with the report of the committee (p. 187) compiled by Mr. Barron. He states Golden Winter Pearmain is a dessert Apple of medium size, round, greenish yellow, hard, midseason, third quality, somewhat confused with King of the Pippins, but distinct. This was staged by twenty-two exhibitors and by the Royal Horticultural Society, so that this shows that it was considered distinct, and I fail to find where "A. W." quotes from to show the reverse. I had not noticed this quotation till mentioned at p. 405, and I agree with the conclusions arrived at except classing it as third rate. I would not place it so low down, but give it second place, and I have, as previously stated, seen it nearly equal to King in a good fruit district, but one cannot rely upon it like King. Seek no Further is described as synonymous with King of the Pippins at the congress named, and Mr. Barron gives it first quality here. I think he gave a liberal award as to its merits. I admit in a warm soil it is worth the first place, but I am inclined to think there are poor varieties of this popular Apple; the best possesses more colour, is rich golden, and a good cooking fruit. This may lead many to think this variety and Seek no Further are distinct. I am aware many hold the same opinion as "A. W." I grow a great number of the King. There is an orchard close to me of this variety, and it is surprising to see the diversity in the trees in the two places. The orchard trees came from a different district, they having all been grafted from one stock many years ago. To show how popular King of the Pippins is, I note 160 dishes were staged at the congress in 1883, and Mr. Barron classes Seek no Further as synonymous with some five others. I think "A. W.'s" Golden Winter Pearmain must be different from mine, as at this season this fruit is softer than King. Probably some of the twenty-two exhibitors who staged this variety may be able to give us some further information. I note trade lists do not give Golden Winter Pearmain, doubtless on the score of King being considered superior. W. B.

A good-flavoured Pear.—In these days one is glad to find that flavour—the true test in a Pear—is recognised, and in some kinds less known than others one is glad to find this good quality. The Pear in question is Beurré Ballet Pére, a large, November fruit of great excellence in such seasons as we have recently experienced. As I have observed, this variety is a lover of warmth, and does well in a warm soil with full sunshine. In shape it is somewhat turbulent, with a pleasing colour on the sunny side, skin smooth, dotted with spots, fruit meat of rich fine grain, juicy, and sweet. It is a grand November and December fruit, and in my opinion not a bad variety to follow Doyenné du Comice, which in appearance it somewhat resembles. On the Quince it bears freely, and is well deserving of a wall in any garden where Pears are a speciality. I have it mostly in cordons, but am planting it in others, as I like its quality, and one can rely upon its giving a crop, which some of the newer introductions do not, in adverse soils. This variety fruits freely in a young state with me as a cordon, and makes a nice growth on the Quince stock.—G. W.

Apple Cox's Orange Pippin.—The interesting exhibits of Pears and Apples for flavour at the meetings of the Royal Horticultural Society show at a glance that no Apple exceeds this in flavour, indeed, does not approach it, for as long as the above variety is staged there is no chance

of others obtaining any awards. Most of us would be inclined to place the above in the premier position, and it does not need to be repeated so many times over. I am aware the schedule is so framed that as long as anyone can produce a fair Cox's Orange he may be assured of success. As most fruit growers are aware, by allowing this variety to hang late on the trees good fruits may be had well into May. I have heard the late Mr. Waterer, whose loss we all deplore, state he could generally keep this variety good till the Ascot week, so that this shows its keeping properties. Would it not have been better to have given a stated period for each kind of fruit, a fair margin being allowed between north and south, or if this was impracticable, to have given one kind only a certain number of chances? This would have brought to light any new kinds, and would, I think, have brought forth those kinds not yet well known, and in measure have fulfilled the wishes of the general class of the prizes. If we take Pears the same thing holds good. As long as anyone could stage *Doyenne du Comice* no other Pear had a chance. I fail to see why one exhibitor should be first with any stated variety and the next best fruit of the same variety not be allowed to come in second when the prizes are awarded meeting after meeting to the same kind. My idea is that the schedule should have been framed to give other kinds a chance. I am not complaining, but so far it teaches us little but what we knew. I think points may with advantage have been allowed for kinds less known.—W. I. M.

SAUCE APPLES.

It is strange that many of our finest and showiest cooking Apples, and even some that will keep well, are either void of flavour when cooked or refuse to soften even in the hands of the best cooks so as to merit the name of sauce Apples. When baked whole or sliced they remain hard and leathery, and therefore unpalatable and indigestible. Happily, however, there are many varieties the reverse of this in character, no matter in what soil the trees are grown, and these should be planted by all who place quality in the first rank. Some of the old-fashioned varieties are still unsurpassed for cooking, although having little to recommend them to those who go in for beauty alone. Perhaps, all things considered, that well-known, but now seldom planted variety, on account of the length of time it takes to come into bearing, Blenheim Orange, is in its season as good, as any for cooking in any way, its amber-coloured pulp being delicious, and what is more, requiring little or no sugar. The same may be said of the old Sturmer, which though not a large Apple even on the best of soils, is not to be surpassed by any of the newer kinds for cooking during April and May, and as for cropping, it does not miss one season out of ten. That very old Apple Hambledon Deux Ans is most excellent late in the year, keeping both its weight and flavour till the month of May. This Apple is little known, but market growers would do well to plant it freely, as it finds a ready sale after all other sorts are gone. At Rivesby Abbey, in Lincolnshire, there are several very large trees of this variety, the owners setting great store by them, as the crops of fine fruit borne by them every year are enormous. The trees grow very quickly and last many years in robust health, longer, in fact, than most varieties. Another remarkably fine-flavoured cooking Apple resembling Wellington, but keeping well till June, is High Canons. It goes to a complete pulp, is of a fine amber colour, and rich spicy flavour. This also may be safely planted in all soils and climate. Wellington should always be included in gardens where the soil is warm and thoroughly

drained, but in cold, badly drained soils it will not do at all. Of the early Codlin section, Lord Suffield and Lord Grosvenor are both excellent, the latter being first-rate for cold soils and late districts, where Suffield would not succeed. A splendid sauce Apple in use from December to February is Lady Henniker; it has a fine Blenheim flavour, the fruit also keeping firm and free from mealdiness, and the tree succeeding well in exposed situations. In a garden near Great Yarmouth this Apple grows to an enormous size on bush trees. Mention must be made of Potts' Seedling, this being indispensable where flavour is considered. This is essentially a sauce Apple, having the extra qualification of bearing heavily on either stock and coming into use in August and September, a season when high-class cooking Apples are none too plentiful. This is a special favourite amongst all classes in East Anglia. For use between October and December, Tower of Glamis, or Carse of Gowrie, is a most excellent variety. I have been eating it lately, and find its bronzy pulp most delicious. It bears well grown either as an orchard tree or espalier. Sussex Duck's-bill, or Winter Queening, very little known outside its own county, is one of the best cooking Apples in existence, baking soft and beautiful, and having a specially pleasant flavour. The tree grows and bears well in cold soils. J. C.

Apple Gascoigne's Scarlet Seedling.—I have grown Gascoigne's Seedling for the last eight years under garden culture, and my experience is that it is most unsuitable for that purpose, requiring, I expect, to be grown in standard form, and subjected to no pruning back. There is one thing certain, that if this Apple can be induced to crop it is sure to sell readily, as it has a beautiful appearance. I am informed that in Kentish orchards in warm, rich soils it is largely grown and crops freely, but whether it will succeed in all climates and soils remains to be seen.—J. C.

Pear Comte de Lamy.—This Pear should be in every garden. There is no harder or freer-bearing variety in cultivation, trees in midland counties yielding as well as in the south. As regards flavour, it is very hard to beat at the time of year at which it ripens (October), and it succeeds well either as a wall tree, pyramid or standard. The skin is yellowish green with a russeted red on the side next the sun. This is a good favourite in Norfolk, being found in the majority of gardens there. Some complain of the small size of this Pear, but if the fruits are thinned out when quite small they grow to the size of an ordinary Winter Nellie. I have a tree on a west wall, where it does exceedingly well.—C. C. H.

Vine leaves for decoration.—At this season of the year the beautifully tinted leaves of such Vines as Barbarossa, Alnwick Seedling and Gros Maroc are most useful, not only for adorning dishes on which dessert is placed, but also for placing here and there on the dinner-table. Arranged round the base of a centerpiece, and mounted on graceful stands of Adamantine, they have a fine appearance by artificial light; they likewise look well placed in vacant places on the cloth, so as to form a kind of star, a medium-sized bloom of some showy Japanese Chrysanthemum being placed in the centre. Earlier in the season the leaves of Madresfield Court may be used for these purposes, being in many instances beautifully coloured.—N. N.

Notes on Pears.—The notes on Pears that appeared from time to time in THE GARDEN are valuable, more especially when the writers state the kind of soil they have to deal with and the district. I am glad to see "W. S." Wilts (p. 364), found Thompson's good this year. With me (Dorset) it has never been good, although I have found it very good on a warm sandy loam.

My trees are on the Quince. Some few weeks ago "A. W." spoke well of Hacon's Incomparable. I have a tree of it as a bush on the Quince. The fruit is large, but very poor in flavour. On a cottage here there is a big tree of this in the best of health. The fruit is large, but the flavour is poor. The aspect is south. When living at Didlington Hall, in Norfolk, where the soil is light and sandy, this kind from an espalier tree was very good, and this induced me to plant it in this garden. Several writers recently spoke highly of *Doyenne du Comice*. In this garden this year it was very highly flavoured and of good size. On looking over the fruit at Farnborough Hill I tasted *Doyenne du Comice*, and was surprised to find it so poor in flavour. One of my best Pears is Winter Nellie, which I never grew to be second-rate. Marie Louise is very fine from an old big tree on a west wall on the Pear stock. I have a tree on a north wall. Here it is later in coming into use, but equally as good in flavour. Louise Bonne of Jersey from a big bush tree on the Pear stock is of splendid flavour, but rough looking compared with fruit I have from trees on walls. These latter, however, are not to be compared with those from the bush from a flavour point of view. Glou Morceau from a tree on a west wall is handsome and good in flavour and is just coming into use. Alexandre Lambe from a bush on the Quince is very good, very free bearing, and keeps well. Emile d'Heyest is a good copper as a bush, but the flavour is only secondary. On a dry soil in North Hants this was grand in flavour. Chaumontel growing on a north wall is of far better flavour than the greater number of kinds I grow. This kind I saw growing as a standard at Rousden and at Bovey House. In both instances the flavour was good.—J. Crook.

LATE MELONS.

The culture of late Melons is often decried by cultivators on the ground that fruit obtained at this season lacks flavour. Under certain circumstances, and in some seasons there may be good reason for this, but for several years I have made it a practice to plant the last batch in September and have never regretted doing so. The ripe Melon makes a very welcome addition to the dessert just now, and where the fruit is liked the season is never too long. I have usually depended entirely upon Hero of Lockinge for winter melons, but this season have included Eureka as well. The quality of this is almost as good now as in the summer, and being a little quicker in ripening than Hero of Lockinge helps to keep up a longer succession from the same house. For late work I prefer the cordon system, pinching the plants when half-way up the trellis and taking a couple of fruits from each. Every other lateral on each side of the stem is rubbed out as soon as it can be seen. The two lower ones are stopped at the first leaf when the latter is about the size of a penny, the resulting shoots generally producing fertile blossoms at the same time as the third and fifth up the stem, so I have at least three and often four fruits swelling away regularly, a choice being made from these early. A most important point in their culture is to keep the primary leaves in good order, and this is more difficult in autumn than in the height of summer. In summer the ventilators may be opened freely early in the morning and the foliage dries on the upper surface before the sun has got full power. For obvious reasons this is not always practicable in autumn, and a slight mistake often means injury to the plants by frost-biting. Unless the leaves keep fresh and green until the fruit is ripe this can never be of first-rate quality, and enough moisture should always be present in the soil to allow of this. By frequent and thin top-dressings of good loam, finely broken charcoal, and a little bone-meal while the plants are growing and the fruit swelling I can always afford to do without liquid manure. Syringing is discontinued as soon as the fruit begins to colour and as much air as possible is given when the latter is finishing. These



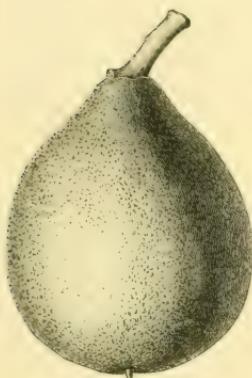
Noix Persienne.

Juglans intermedia
quadrangulata.

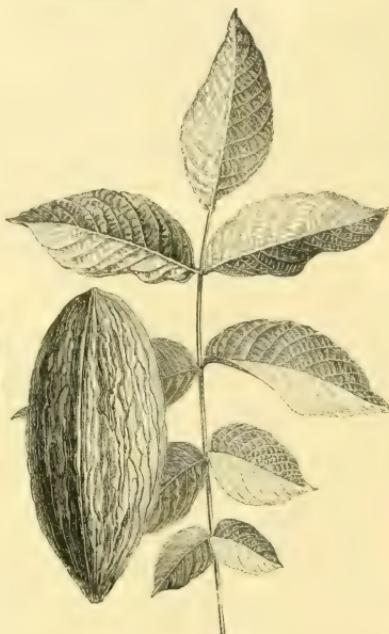
Juglans regia corda a.



Noix Franquette.



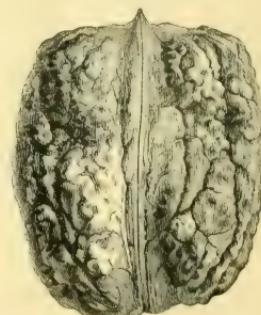
Juglans intermedia pyriformis.



Juglans regia Barthereana.



Juglans regia octogona.



Juglans regia gibbosa.



Juglans regia gibbosa.



Noix St. Jean.



Noix Chaberte.



Noix Mayette.

few simple matters attended to, and given careful ventilation, and sufficient fire-heat during the whole time of growth, good Walnuts may be produced up to the middle of December. The two varieties mentioned are the best I have tried up to the present, and it would, I think, be interesting to know from successful cultivators how far the list may be extended.

H. R.

THE COMMON WALNUT.

WALNUTS have been unusually plentiful this year and, with a singularity which I have never hitherto observed, their period of ripening has been prolonged for a length of time of which we have no previous record. The first ripe fruits made their appearance in the beginning of September, and the supply of excellent freshly-gathered nuts was extended beyond the middle of October. This is a plain proof that among the plantations of ordinary Walnut trees, which are generally grown from seed and not grafted, varieties exist which differ from one another not only in the quality of their fruit, but also (what is equally important) in their time of ripening. As I have eaten more Walnuts this year than I can remember that I have ever eaten before in all my life, I am desirous of saying a few words about this fruit.

According to Mons. Chas. Baltet, Paris alone annually consumes about 6875 tons of dried Walnuts. Besides these, the freshly-gathered nuts are in great request at all dinner-tables. These fresh nuts are better and more easily digested when eaten with a little salt. Later on, when the skin does not separate so readily from the kernel, they should be partaken of very sparingly, as not only are they then indigestible, but are apt to bring on a cough and, with some persons, a headache. In the country there is perhaps even a larger consumption of dried Walnuts than in towns. My own opinion is that they are not so good as dried Almonds, and these, again, are not so good as Almonds in the fresh state. Walnuts are utilised in some departments of France for the manufacture of oil. In preparing this, the kernels are separated from the broken shells and the laminar partitions of the nuts. The kernels which are found to have turned blackish or brown are put aside to furnish lamp oil. Oil for table use is made from the others. The first-drawn oil (which is obtained by pressure without the aid of fire-heat or hot water) is termed "huile vierge." This improves by keeping and is then highly valued for certain pharmaceutical preparations. Oil of the second quality (which is extracted by the aid of heat from the residue of the first-drawn oil) is termed "huile cuite," and is used for making soap and in painting; it dries very quickly and enters into the composition of various kinds of varnishes and printing-inks.

Walnuts are also eaten in the green state while the kernel is still of a milky consistency. They are then prepared by cutting them in two and leaving them to steep and soften in water mixed with vinegar. They are also pickled like Gherkins, but require to be more strongly spiced, and it is especially necessary that, when used for pickling, they should be gathered before the shells have become too hard. The right time for doing so is while the nuts can be pierced through and through in every part with a needle. In addition to these uses, Walnuts are also employed in confectionery. In Auvergne, according to M. Baltet, certain establishments for preserved fruits prepare the skinned kernels of Walnuts with sugar, making the preserve up in short-necked, wide-mouthed bottles. In Belgian Limbourg also Walnuts are sold in the green state to the confectioners. At Poitiers three

oil factories send out annually 132,000 gallons of Walnut oil. With its 7500 acres of Walnut plantations on alluvial and calcareous soils, the department of Lot produces annually about 8066 tons of Walnuts and employs 100 oil-pressing machines. A Walnut tree in good bearing yields annually about 176 pounds weight of nuts, and the proportion of oil which is extracted at the factories is equal to about 18 per cent. of the weight of the nuts. The pressed residue of the nuts is used, like linseed oil-cake, for feeding cattle and also as a manure. Fattening poultry, especially turkeys, by means of Walnuts is a practice well known amongst the Walloon poultry raisers, and in country places poultry are frequently thus prepared for special family dinners or festive meetings of friends.

It is evident that from a commercial point of view the Walnut is an excellent kind of fruit, the culture of which has, perhaps, been somewhat neglected of late. Statistics show that in France the production in the year 1885 amounted to over 80,000 tons, representing a money value of twenty-five millions of francs (£1,000,000).

The Walnut is usually propagated from seed, but, as in the case of other "fruit trees" properly so called, the special qualities of the parent tree are not reproduced by this mode of increase, although it may be admitted that by a careful selection of the seed-parents a certain amount of constancy might be attained in the reproduction of varieties. At present, superior varieties, the fruit of which has a higher market value than the ordinary kinds, must be propagated by grafting. Grafted Walnut trees are much more productive than those raised from seed, and this forms an additional inducement to employ this mode of reproduction when local conditions create a preference for one variety more than another, either on account of the fine appearance of the fruit, the quality of the kernel, or the earliness or lateness of the time of ripening.

Walnut grafting is no novelty, the practice having been recommended by Olivier de Serres about A.D. 1600, but the operation is not a very easy one, and, to be successful, requires dexterity and experience. The methods employed are those known as pipe-grafting and cleft-grafting. One of the most successful ways is a modification of cleft-grafting in which the scion is cut with a bifurcation or fork at the lower end, into which the top of the stock is inserted, having been previously cut so as to fit exactly into the fork.* The graft must be well secured with ligatures and carefully covered with grafting-wax or similar air-tight material.

The Walnut tree is by no means fastidious as to the soil in which it is planted, and may be seen growing in ground of the most sterile character; but, to thrive properly, it requires soil of a calcareous, schistous, or volcanic nature. It will not grow in granitic soil, and damp, clayey ground is almost equally unsuitable for it. A native of the mountains of Asia Minor and Central Asia, it was introduced into Europe at a very early period, and was already naturalised in Greece when Theophrastus wrote his "History of Plants" (e.c. 314). It seems to have been next introduced into Italy, whence it made its way into other parts of Europe. Resisting with difficulty the inclemencies of the more northern climates, it does not ripen its fruit beyond the 55th degree of N. latitude.

Mons. Chas. Baltet, in his excellent treatise on the subject, gives descriptions and illustrations of the best varieties of Walnuts. Besides the common kind, he mentions and figures the noix à coque tendre or noix à mésange, a nut of

* This is known in England as "saddle-grafting."

medium size and elongated shape, the shell of which is easily detached from the kernel; the noix à gros fruit, of which there are several varieties with round or elongated nuts, desirable kinds, good for eating when freshly gathered; the noix de la St. Jean, a medium-sized nut with a hard shell, the principal merit of the variety being that it is late in coming into growth, a point of some account in making a selection of varieties, as the Walnut suffers from late spring frosts unless it is somewhat sheltered, and early-growing sorts, of course, suffer the most.

Amongst the varieties grown in France, M. Baltet also mentions the Chaberte, Franquette, Mayette, Parisienne and Barthére, the last named being a very elongated, peculiar-looking nut. Lastly, the Noyer fertile (Juglans futilis), a variety highly recommended, which bears fruit at a very early age, and comes tolerably true from seed. There are besides many varieties of ornamental-foliated Walnut trees well adapted for pleasure-grounds and also yielding good fruit, such as Juglans heterophylla, J. laciniata and the Weeping Walnut (J. pendula), which when grafted as a tall standard forms a magnificent tree of most picturesque appearance. — ED. PYNAERT, in *Bulletin d'Arboriculture*.

Pear Hacon's Incomparable.—I have a large pyramid of this Pear in orchard on Pear stock. It is in rather a shady aspect and it has a good crop of fruit each year. The fruit is of good flavour. I commenced using it on November 20.—A. J. B., Northampton.

— On p. 440 "J. C." calls attention to this Pear, but appears to have been unlucky with it. My experience differs from his, and I find it one of our most valuable late Pears, remaining in season over a long period. It has a pleasant flavour and never becomes green or raw at the core. The tree bears a good crop, and is healthy and robust in the pyramid form and worked on the free stock. Its greatest fault has been shy bearing, and I am sorry to give it this character. I have, however, succeeded by root-pruning in counteracting this fault; still I fear it will never become really free, though quite worthy of a place in any garden where a constant supply is required, as it gives a few dishes of fruit excellent in quality at a time when such fruits are scarce. The tree in itself is quite a pleasure to look upon, from its healthy appearance and good habit.—J. C. TALLACK.

Wintering pot Strawberries.—"S. H. M." does well in re-opening this important question, for important it is from the fact that Strawberry forcing to be successful must depend entirely on the condition of the plants, for if the latter have not their crowns well ripened and if they have not been subjected to a period of rest, good results cannot be expected. To ensure rest, the plants must be kept as cool as possible, and plunging the pots to the rim in a bed of ashes is a very rational method of gaining this end, as is also the old-fashioned way of building the pots in stacks with ashes placed between them. Both methods answer well in average winters, but when unusually hard, frosty weather occurs it is often a difficult matter to liberate the pots from the ashes. In the early part of 1895 there was an utter impossibility to get the plants out from the plunging bed of ashes, after being left with Boxes and mats, and much valuable time was lost in consequence, to say nothing about the loss in the way of broken pots when the thaw took place. I have given up stacking Strawberry plants for forcing several years now, and my experience of 1895 led me to abandon plunging, and I now winter them in cold pits and frames. The plants are placed close together in the latter, and they have free exposure, as the sashes are kept drawn off, and will only be put on when hard weather seems imminent. This plan answered well last year,

and although there was an almost entire absence of frost the plants gave satisfactory results when forced. I quite agree with "S. H. M." that it is far better to run the risk of plunging the plants outdoors than to store them away in houses, for however well the latter may be ventilated, the

one of the finest varieties ever seen. *Vanda Sanderiana* requires the temperature of the East India house. The plants are usually imported as single growths, and I find that they do best in baskets, in which should be plenty of clean crocks. The whole surface should be

wide margin of white. This, too, is continued farther down the sides than in most varieties. In the centre upon a greenish ground are many broad blotches of violet-purple, a few of these reaching nearly to the apex. The petals are similar to those of the type, the lip being narrow and of a reddish brown. The leaves are longer and a little broader than those of the type, and it thrives under exactly similar conditions.

Odontoglossum Sanderianum.—The flowers of this species cannot rival many in the genus for size, but they are extremely pretty and very distinct. They occur on arching spikes, a great number on each, and have narrow yellowish segments spotted with red, the lip is white in ground colour, spotted in front and having a large irregular blotch of red in the centre. It is a very difficult plant to grow if suitably treated. The roots being small, small pots or pans only are required, and these should be well drained. Good peat and Moss in equal parts, kept open by adding plenty of crocks, will grow it well, the plants being potted with the base of the pseudobulbs a little above the rim. The pans may be suspended from the roof with advantage. It does best in quite a cool house, heavily shaded during the summer and in winter kept well ventilated.



Vanda Sanderiana in Mr. Gurney Fowler's garden at Glebelands, South Woodford.

plants have not that free exposure to the elements that they experience in cold pits or frames. Although "S. H. M." says that this question was amply discussed a few years ago, the reopening of it cannot fail to be of interest, especially to those who had not the privilege of perusing the notes that appeared at that time, and it may, perhaps, lead others to give their experiences.—A. W.

ORCHIDS.

VANDA SANDERIANA.

The accompanying illustration shows the fine plant in Mr. Gurney Fowler's collection. This was exhibited at the Royal Horticultural Society's meeting at the Drill Hall, October 13 last. It was certainly the finest specimen ever seen, and the society's gold medal was never more deservedly awarded. It had eight growths, eleven flower-spikes, and 126 flowers fully expanded. It originally had twelve spikes and 137 flowers, but one of the spikes had been removed previous to its being exhibited. The flowers were very large, each measuring upwards of 5 inches across. The plant was brought home by Boxall, Messrs. Hugh Low and Co.'s veteran collector. To show the rarity of large specimens and how much Boxall prized the plant, he packed it carefully in a box with cocoanut fibre and brought it home in his cabin. This is the second time the plant has flowered in Mr. Fowler's collection. Last year it had only one spike, but it was sufficient to satisfy all who saw it that it was

covered with good living Sphagnum Moss. The basket should be suspended from the roof if possible, to prevent attacks from cockroaches, as these are very fond of the roots and flowers of this plant. This *Vanda* requires a liberal supply of moisture throughout the growing season, both at the root and in the atmosphere, but it should be kept on the dry side during the resting season. It must, however, never be allowed to suffer from want of root moisture, as if so the leaves are liable to turn yellow and cause the plant to become unsightly.

A coloured plate taken from the plant which first flowered in this country in the collection of the late Mr. W. Lee at Downside, Leatherhead, was published in THE GARDEN, vol. xxv. (page 104).

Cypripedium insigne Chantini.—This pretty variety occasionally crops up among the old species. It is one of the best of the insigne forms, the broad, well-formed dorsal sepal being well displayed and having a more than usually



The first flowered plant of *Vanda Sanderiana*.

Plenty of water both at the roots and in the atmosphere is necessary all the year round. *O. Sanderianum* is a native of New Grenada, whence it was introduced in 1881.

Phalaenopsis Stuartiana.—This grand species is only second in beauty of foliage to *P. Schilleriana*, while the blossoms cannot be excelled even by those of the latter superb kind.

Many of these are produced upon the long branching panicle, and in a good variety they each measure nearly 3 inches across. The ground colour of the sepals and petals varies considerably, that of the typical form being pure white, the sepals flushed with yellow below and spotted with rose. The lip is white, with crimson spots, and the front is curiously constructed, forming as it does a pair of curved thread-like processes like the antennae of an insect. *P. Sturtiana* is a good grower and will be satisfactory with ordinary care.

NOTES OF THE WEEK.

Carnation Daybreak.—This is of a pale flesh-pink in winter and of a pinkish-white hue in summer, the latter the result of the hot weather. The flowers are very full and usually produced singly on stems fully 12 inches long that render them most useful for cutting.

Eucharis Stevensi.—This beautiful kind has been flowering recently in the store at Kew, the blossoms very chaste and pure, though not in any way surpassing those of the well-known *E. grandiflora* in point of beauty or even of purity. A coloured plate of this was given in *THE GARDEN* of August 11, 1894, p. 128.

Dracena Brocqueldi.—This novelty should, if seen in bloom, quickly take a foremost place. The plant, judging by the example recently seen at the Drill Hall, is of moderate growth and beautifully variegated with silver or white markings, the latter as prominent as in the case of finely-coloured plants of *Pandanus Veitchii*.

Carnation auricula Pike.—In some handsome flower of this variety gathered to day (December 7) the richness of the colour was very remarkable, and quite distinct from that of flowers produced by the same plants in the end of June. Apparently the diller weather at this season is well suited to the variety, as the blossoms last a long time in perfection.

Primula obconica varieties.—In a large batch that came under our notice of some 200 plants of this species raised from seeds it would have been an easy matter to select several of decidedly improved form. The improvement was more in the direction of increased size together with form and distinct eye, and by selecting these for seed it should be quite easy to produce a much improved strain in the near future.—E. J.

Tussilago fragans.—Though perfectly hardy here as its roots are concerned, this fragrant weed rarely comes to perfection in the open unless the position be sheltered. Too often, however, wet and frost complete the ruin of this welcome plant, and for this reason it is well worth while to pot up the best flowering crows each year for the decoration of the greenhouse. A few sprays of its blossoms are always welcome in December.

R. inwardia tetragyna.—This and *R. trigyna* are among the frost-flowering of greenhouse plants for autumn and winter. The blossoms are each about $\frac{1}{2}$ inches across, of a yellow colour in the first named and of a rich orange-yellow in the latter species. Both species are of a somewhat shrubby habit of growth and of easy culture. Red spider is frequently most troublesome and must be kept in check, or the foliage is quickly disfigured thereby.

Carnation La Neige.—Among the winter-flowering white Carnations this is one of the best, the flowers being pure white and freely produced. The variety does not come up to the florist's ideal of excellence, for by these only the smooth edge can be tolerated, and this *La Neige* does not possess. The fact that it is free-flowering and that many of the blooms are produced on fairly good stems is in its favour, and where a few kinds only are grown this one should be included.

Fuchsia Moulsworth.—This is one of the most continuous bloomers and of much value for

winter flowering, as we witnessed in a small private garden only a day or two since. Many varieties of Fuchsias are grown, but the one named seems to surpass them all for winter flowering, notwithstanding that the plants had bloomed abundantly during the summer. The sepals are red and the corolla double and pure white. The flowers usually come in pairs make a good display even on small plants.

Carnation Mrs. Riley.—This winter-flowering Carnation, which was distributed about two years ago, is, I consider, one that is likely to become a favourite. The flowers are of fair size, of a soft pink shade and freely produced. It throws up its flower-stems very early in the autumn, considerably earlier than Tree Carnations generally, and in order to have it well in bloom during the winter months the flower-stems must be pinched back up to the beginning of September.—J. C. B.

Pelargonium West Brighton Gem.—Where small plants are required in quantity and a bit of brilliant colour into the bargain, it would be difficult to name anything more effective than this. Very dwarf and compact in habit and producing its dainty little trusses so freely should make it welcome in the conservatory or warm greenhouse any time in mid-winter. We are just reminded of its exceeding usefulness by seeing several hundred plants flowering as freely almost as at midsummer. The plants were not more than 9 inches high.

Tuberous.—The very latest batches of these useful flowers are now expanding their blossoms at a temperature of not less than 55° at night. Where such a temperature can be given them the plants receive considerable benefit by being plunged on a mild bottom-heat, and if the growing material be coco-nut fibre the warmth readily penetrates through and is retained, to the profit of the roots. Thus with the addition of top-dress will bring out a great number of flowers, though invariably there are a few spikes that go blind at the top at very late date.

Euphorbia jacquiniifolia.—This is among the most brilliant of stove-flowering shrubs, and at this season of the year its beautiful arching sprays of yellow-and-white flowers in the exquisite lighting of leaves create a quite unique effect. Used here for decoration in a cut state care should be taken as each spray is severed from the parent plant to use one or other of the simple methods for preventing the exudation of the milk-like sap that flows so freely from members of this genus. One of the simplest and always at hand is a little fine and very dry silver sand, into which the stems may be thrust.

Iberis gibraltarica.—This plant is usually referred to in connection with the rock garden or hardy plant border, and while in many gardens perfectly satisfactory when thus grown, it has a value of its own in the conservatory at this dull season of the year. Fresh seeds sown in the latter part of spring make capital pot plants in a few months, and the flowers, instead of assuming the lilac hue so frequent in the open, are pure white when grown under glass. It is a good plan to sow half a dozen seeds in a 4 inch pot, and, in spite of pricking off, transfer bodily to pots 6 inches across. Thus treated and grown outside till September, sturdy plants result, and later on nice heads of pure white blossom. The seeds are easily obtained and the plant is very useful for cutting in the winter months.

Rose Catherine Mermet.—Notwithstanding that fogs have been conspicuous by their absence during the present autumn, this Rose feels the absence of sunlight at this season. In its prime the lovely tony of colour as well as the beautifully formed buds so characteristic of the variety can scarcely be beaten. Quite recently in a large market nursery where this Rose is grown by the thousand, its beautiful warm, salmon pink shade had almost vanished merely through insufficient light, the colour fading by degrees as the days shorten and returning as they lengthen in a very remarkable manner. The blooms are also much

valued at this season because of the scant supplies that follow even the best known methods of cultivation. The variety succeeds best in large roomy houses where there is a plentiful supply of air without opening the ventilators too widely.

Propagating Vitis Coignetiae.—This is by many considered a difficult plant to increase. How such an impression has got abroad I cannot conceive, as it is one of the easiest plants I know of to increase, either by cuttings or layers. Here I have a standing order from Earl Annesley to keep up a stock of young plants, as visitors invariably ask for plants of it, and his lordship has sent plants to nearly all parts of the United Kingdom. Of late years I have kept up the stock by layering, which is done at any time during the winter or spring, not even going to the trouble of notching the layers. The beauty of *Vitis Coignetiae* is the way the leaves colour in the autumn. By not overfeeding the plant you get the finest autumn colour. I remember a few years ago some young plants got neglected in a corner in one of the frames, and I have never seen leaves so brilliant, so coloured as these were. *Vitis Coignetiae* flowers and fruits here, but I have never tried to raise seedlings. No doubt young plants could be raised from eyes.—T. RYAN, *Castlevellan*.

Stauntonia latifolia fruiting.—Lately one of my young men brought me a fruit which he called a Passiflora. As I felt rather doubtful as to its identity, I went to see what he gathered it, and found a similar fruit hanging on a plant of *Stauntonia latifolia*, which is trained up one side of the house. There was some little excuse for thinking it to be a Passiflora fruit, as it somewhat resembles the one figured in your number of November 21. I note in one of your back numbers (April 30, 1881) you say of *Stauntonia latifolia*: "If only for the delicious fragrance emitted by the flowers of this plant, it is well worthy of a place in every greenhouse, and the fact that it is a first-rate evergreen with deep green foliage gives it additional value. The flowers are by no means showy, the pollen-bearing ones being green and those that bear seed a vivid purple, borne in clusters in the axis of the leaves at intervals along the slender branches." It would be interesting to know if it has fruited in other places. I send you with this a fruit; the first one gathered was as large again, but got damaged.—JNO. HOPKINS, *The Gardens, High Cross, Framfield, Sussex*.

Callicarpa purpurea.—This old Indian stove plant was an attractive feature in Mr. W. Howe's table of plants at the recent exhibition of the National Chrysanthemum Society at the Royal Aquarium; the long shoots of berries in the first freshness of their violet tint, which are borne in cymose clusters, compelled attention, and there were many inquiries from visitors as to the name of the plant. It is a pity that this old fashioned subject like the Callicarpa are not named when they are set up in groups, as they are certain to attract attention. The Callicarpa is one of those plants which have suffered from neglect; it is occasionally seen poorly grown, then it appears insignificant and is regarded as unworthy of cultivation. Mr. Howe's plants, attractive as they are by themselves, represented the whole possibilities of culture, but they were sufficiently winsome to attract attention. Really it should find a place in every collection of plants grown for winter decoration. It is of shrubby habit, and the flowers are borne in clusters upon foot-stalks which issue from the leaf axils, and in the case of well-grown plants the clusters of berries which follow the insignificant flowers are in number from fifty to 100 in a bunch. Their weight causes the long branches to arch over, and so assist to make it a valuable decorative plant for a warm conservatory or greenhouse. The berries will remain in beauty from November to May.—R. D.

The weather in West Hampstead.—A warm week. There was not a single unseasonably cold day and but one cold night, and then the exposed thermometer only fell 9° below the freezing point.

The temperature of the soil at 1 foot deep has risen about 2° since the beginning of the month, and is now about 2° in excess of the December average. Rain has fallen on all but one day this month, and to the aggregate depth of nearly 2 inches. During the last nine days only about 1½ hours of sunshine have been altogether recorded, and none at all since the 3rd inst. On the 4th and 6th the barometer was very low, and on the former of these days the mercury fell to 28.780 inches between 1 and 2 a.m., and remained at the same low point for nearly an hour. This is the lowest reading recorded here since November 10, 1891.—E. M., *Persholted*.

GARDEN DESIGN.

The following letter has been sent to the editors of the building papers:

SIR,—I find the following paragraph in the beginning of Mr. F. Inigo Thomas's lecture:—

"Fashion have come and gone in gardens as in everything else; but the fashion which is a certainty it is that the fashionista have done with a garden altogether, that is to say, the substitute that has usurped its place is what in a letter period would have been called a wilderness."

There is not a county in England in which one could not readily see that this is a complete misstatement, the very opposite being the truth, that the gardens of our own century are hard and formal to a degree which drives the artist out of them. It is also untrue to say that the garden of our own time is a wilderness. Many of the prettiest gardens were made in our own day, as at Crewe Hall, Witney Court, Windsor and Osborne, including Paxton's extravagance at the Crystal Palace, Sir Charles Barry's at Shrubland Park, and Nesfield's at South Kensington. The only "wilderness" to be seen in these places is one of stone out of place. The old houses had not any thing of the kind, the walls about them having some relation to use and need, as at Rockingham, Haddon, Jightham Mote, Powis, Sutton, Berkeley and many others, whereas the modern stone garden is only a built drawing.

I remain, sir,

Yours faithfully, —
W. ROBINSON.

BOOKS.

THE PLANT LORE AND GARDEN CRAFT OF SHAKESPEARE.*

CANON ELLACOMBE'S book has deservedly come to a third edition, on which we congratulate him, but not his publishers, none of the editions having been printed with care. The present edition is illustrated with some of the crudest and worst engravings we have ever seen. The drawings appear to have been good, but the reproduction is of the commonest process order, and all the strong blacks are in the distant parts, which ought to be delicate (*Shakespeare's* a schoolboy, facing page 120). The frontispiece (*Shakespeare's* garden) shows a few standard Rose-trees, if they were worsted, and at the time of *Shakespeare* there were, of course, no standard Roses. "*The Cedars*," facing page 128, is one of the worst cuts we have ever seen in a book of any pretensions, the tree not being a bit like the Cedar. Another dreadful illustration is the avenue at Stratford-on-Avon Church, and such is the want of skill still care in the part of the publisher and printer, that these wretched cuts are put on special plate paper, whereas those that print best are on the ordinary paper. If anybody cares to see how the art of engraving a book is going back, he has only to compare this with a good French or English book of a century ago, or even two hundred years ago, such as, say, the first edition of Walton's "Com-

plete Angler." We hope that in the next edition Canon Ellacombe will get his publishers to make a book which in printing and engraving will be worthy of the little price.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

The floral committee of this society held a meeting on December 1, when Mr. T. Bevan occupied the chair.

There were some good novelties staged, the most attractive being Mrs. F. A. Bevan's (a pale yellow sport from Calvà's well-known *Mme Carrot*), Mrs. John Cooper (a rich crimson sport from Lord Broke), Duchesses of Fife, &c.

First class certificates were awarded to—

COMMODORE—A very full double Japanese with narrow florets, incurving in the centre, but turning outwards as the blossoms expand; colour pale yellowish white, with centre slightly tinted. This came from Mr. H. J. Jones.

W. WILKINSON—A large Japanese, with long, drooping florets of medium width; colour white, striped purple. Also shown by Mr. H. J. Jones.

The floral committee of this society held the last of its meetings for the present season on Wednesday last at the Royal Aquarium, Westminster, Mr. Thomas Bevan presiding.

A first-class certificate was awarded to—

KING OF ORANGE—A very full double incurved flower, deep in build and globular in form, the colour golden orange, outer florets being slightly tinted carmine. Exhibited by Mr. F. W. Flight.

DISRAELI, a small single Japanese, with fluted rays of pale primrose-yellow, so ingeniously formed. **CHRISTMAS GOLD**—A Japanese, with rather broad florets, colour pure deep golden yellow, also received a commendation as a good late variety in its colour. A white sport from Primrose League named *Florence Chandler* was also staged in very good condition, and must be regarded as promising.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, December 15, in the Drill Hall, James Street, Victoria Street, Westminster, 1 to 4 p.m.

Shrubs for north of England.—My employer wishes to plant a collection of flowering and other shrubs in the pleasure grounds. Will my reader give me a good list through the pages of *THE GARDEN* of suitable shrubs, &c., which would stand this cold and bleak district? We are only two miles from the sea-coast, Saltburn-by-the-Sea, and we experience very cold east winds, especially in the spring. The soil here is a good black loam.—J. R. B.

* We do not think your conditions at all unfavourable if you get a little of the shelter usual in gardens, and avoid the tender evergreens people plant to freely everywhere and which perish in hard winters. All the hardy deciduous shrubs, like Azaleas, Lilacs, Weigelas, and Deutzias, you will find as much at home under your conditions as anywhere else, except that your closeness to the sea will give you advantages over people inland.—ED.

Glasshouses and the new Agricultural Act.—A decision that will affect the whole of the market gardeners throughout the United Kingdom with respect to the new Agricultural Rating Act lately passed before the magistrates at Uxbridge (Colonel Greaves in the chair). Mr. Edwards of Ealing, the Surveyor of Taxes for the Uxbridge Union Assessment Committee, who recently decided on an appeal to them by the Hillingdon East overseers that land covered with glasshouses, used as market gardens, be treated

as agricultural land. Mr. Edwards contended that the glasshouses should be treated as buildings, and not benefit by the new Act in any way. Mr. W. A. Bird (of the firm of Meers, Bird and Son), solicitor, of Uxbridge, appeared on behalf of the Hillingdon Parish Council, and after addressing the Bench at some length dwelt principally upon the case of Purier the Worthing Local Board of 1887, where Lord Esher and the Lord Justice Fry and Lucas upheld the decision of the divisional judge, who stated that land covered with glasshouses market garden land, and should be relieved. The magistrates, after an absence of forty minutes, dismissed the appeal without costs. The Surveyor of Taxes signified his intention of appealing at the Quarter Sessions.

PUBLIC GARDENS.

Highbate Woods.—The General Purposes Committee of the Islington Vestry has recommended that the vestry contribute £2000 towards the money required for the purchase of Churchyard Bottom Wood, Highbate, for the public.

Open space for Penarth.—Lord Windsor, Lord Lieutenant of Glamorganshire, who is ground landlord of Penarth, has generously determined to hand over the delightfully situated Windsor Gardens ad Cliff Promenade at Penarth as a gift to the town, subject to reasonable conditions as to maintenance.

Open spaces.—At the monthly meeting of the Metropolitan Public Gardens Association held at 83, Lancaster Gate, W., Sir W. Vincent, Bart., vice chairman, presiding, the committee appointed at the last meeting to formulate a scheme for the provision of open spaces in London and the provinces in commemoration of the sixth year of Her Majesty's reign, reported that it had held a meeting to the latter of which it had invited the attendance of representatives from the Crystal Palace Preservation Society, the Kyle Society, and the National Trust, and that it had been decided to form a joint committee of the several societies to take such steps as may seem desirable to give effect to the proposal. The secretary reported that the laying out of St. James's Churchyard, Pentonville, ss a public garden had now been commenced, and that a faculty had been granted for enabling the association to undertake a similar work at St. Matthew's Churchyard, Bethnal Green, which it was hoped might be started next month. It was announced that of the £12,000 required to secure the "Postmen's Park," E.C., about £11,250 had now been subscribed from various sources, the association being responsible for about £1400, one-half of which it had received chiefly in small sums. The joint memorials from the Open Space Societies to the London and Middlesex County Councils were signed on behalf of the association, asking those bodies to contribute towards the purchase of Churchyard Bottom Wood, N. It was agreed to offer to provide trees for planting in Great Western Road, W., and Hoxton Market, N., and lay out Charles Square, N., if the vestry provided funds for the purpose.

Names wanted.—Will any reader kindly give me the Latin names of the following: Fallow Wood, Karri, and Tanak?—M. CORREVON.

Fruits for cottagers.—May I ask you to be so kind as to allow me the use of your columns to ask the members of the fruit committee to come to the next meeting on December 15 prepared to revise the pamphlet "Fruits for Cottagers," published in 1892. About 65,000 copies have been distributed and a new edition is now wanted, and the expediency of revision has been suggested.—W. WILKS, Secretary.

Names of plants.—M. E.—Impossible to name without flowers. —W. R.—*Lithocarpus incisa* (syn. *Pteris sinuata*).

* "The Plant Lore and Garden Craft of Shakespeare." By Canon Ellacombe. London: Edwin Arnold.

No. 1309. SATURDAY, December 19, 1896. Vol. L

"This is an Art
Which does mend Nature changes it rather; but
THE ART ITSELF IS NATURE." —Shakespeare.

ORCHIDS.

THE BLUE DISAS.

A GOOD many years ago I was admiring a splendid pan of the great scarlet *Disa grandiflora* (D. macrantha) of which the grower, a fine old country gardener, was very proud. "Nothing could be finer," I said as we were leaving the little half-shaded lean-to greenhouses with its small panels and big 'aps, in which the specimen alluded to had been grown. "Well," said the gardener, "I am not so sure of that, for a gentleman was here a week ago who has been out to the Cape, and he told me that he had seen big patches of a *Disa* growing there which had lovely sky-blue flowers. 'Wait until we get tubers of that,' he said, 'and then we will see what we can do with it.' I never saw the old man again, nor do I know if he ever saw roots of the much-longed-for blue *Disa*, but I have seen plants of several so-called blue-flowered species since then, but they all lack the size, dignity, and intensity of colouring that render *D. grandiflora* the noblest and most satisfying of all terrestrial Orchids as seen well and healthily grown. The largest in flower of all the blue *Disas* seems to be

Disa longicornis of Thunberg, which has tubers and leaves not unlike those of *D. grandiflora*, and bears a solitary flower on a leafy scape 6 inches or 8 inches high. The flower is of a pale slate-blue colour, the dorsal sepal being hooded and having a long curved *Aquilegia*-like spur behind.

D. maculata is a slender plant, only 5 inches or 6 inches high, having three or four narrow, grass-like leaves and a solitary bright blue flower an inch or so across, and in shape reminding one of the old *Epipedium coeruleum*, the dorsal sepal being cucullate and shell-like. Of

D. barbata there are both white and pale slate-blue forms, and

D. venusta of Bolus, sometimes put into the genus *Herschelia*, has a close facial resemblance to the last-named, its blue flowers being three to five on a scape, but pale blue in colour. The dorsal sepal is half an inch in diameter, hooded and spurred, and the lip is delicately fibrillated or fringed.

All the above may be called blue *Disas*, but the prettiest species I know of is

D. purpureascens of Bolus, quite recently figured at t. 86 of his second volume of "Orchids of South Africa." It bears two to five flowers on a slender scape, which rises from still more slender, Rush-like leaves. The individual flowers are shown to be 1 inch across, and are purplish blue in colour, but the large dorsal sepal is of a clear and lovely pale blue, having a short green spur behind.

All the four or five species of *Disas* are characterised by the most elegant tenuity of growth, if we except *D. longicornis*, which more nearly looks like *D. grandiflora*. Seeing that the last-named species has been hybridised with *D. racemosa*, I hope to see the blue species hybridised together, the hybrids having a more robust habit than the original species at present possess.

Apart from the above, *D. spathulata* and *D. longicornis* are two other species alluded to in Williams' "Orchid Grower's Manual" as having blue flowers. So far as I can learn, the blue *Disas* grow in more open, dry, and sunny positions than does *D. grandiflora*, so that their resting season is longer and more pro-

nounced. As to soil, sandy peat on a well-drained bottom seems best suited to them, but the real difficulty is in resting them hot and dry enough. A friend recently home from the Cape tells me he has seen the veldt or plains in South Africa scorched and blackened by bush fires here and there, all life seemingly having vanished, and still within a few weeks or days even, after heavy rain, the whole place is a flower garden of *Disas*, other terrestrial Orchids, and bulbous plants of other kinds. I have often seen terrestrial Orchids and *Nepenthes* spring up after jungle fires in the East in a similar way after rain, but there is a lack of the blaze of colour and variety of form which suddenly burst forth in S. Africa, where drought, and consequent bush fires, are more common.

What seems now essential to know in more exact detail is the native conditions under which these exquisite blue *Disas* grow at the Cape as seen by observers familiar with plant culture, and then, given a good stock of sound imported tubers, we ought to be able to cultivate them in our gardens more generally and more successfully than is at present the case.

F. W. B.

CYPRIPEDIUM CALCEOLUS.

ACCORDING to the description given by Mr. W. Mauger, Guernsey, as to the conditions under which he has seen *Cypripedium Calceolus* and *Trollius europaeus* grow, the usual order of things seems to be reversed at Ragatz. I have witnessed similar surprising results in the positions of plants according to the different regions in which they grow. *Primula auricula*, for instance, which on the Alps usually luxuriates on the arid apex of a rock, is at that elevation more rarely seen descending to the alpine turf, grows here on the plateau on which Munich is situated (1690 English feet above sea-level) in wet, peaty meadows, and not only this, but almost exclusively even in the little cavities resulting from the tread of cattle or other causes; where the ground is in the least higher it is nowhere to be seen. So wet, indeed, are these dimples, that the water bubbles up from under the feet. *Gentiana verna*, on the contrary—which generally is regarded as a more thirsty subject—grows here by the million on heaths "as dry as dust," and there shrivels up in summer to such an extent that it is a difficult matter to hunt it up in the turf. The moister the position becomes, the more *Gentiana* verna makes room for *G. acaulis*, which best enjoys the conditions under which the Alpine *Auricula* and *Primula farinosa* grow, in company with both of which the *Gentianella* flowers in tens of thousands in the wettest spots, the mixture of the three pure colours mingling into a wondrous blend like shot silk. A little later on, *Trollius europaeus* begins to flower, almost covering the whole (entirely open) position with its golden balls.

From these extremes in the conditions under which wild flowers grow in different parts, it would seem to follow that the attempt to naturalise them elsewhere should be regarded from the standpoint of an experiment rather than trying to closely imitate the conditions under which they are seen growing in a climate probably differing greatly from the one in which they are now intended to find a new home. In the midlands of Germany, on slightly undulating woody ground, *Cypripedium Calceolus* grows, not as a common plant, but, where it does occur, often in large numbers together. The aspect is invariably ground sloping towards the east and of a calcareous nature,

mostly a soft, crumbling limestone, the interstices of which are filled up with very stiff calcareous clay, from which, on account of the intercrossing roots of trees, it is often difficult to extract the rootstock of the *Cypripedium*. This Orchid is there seen to perfection in young coppices in the half shade. When the shade in time becomes too heavy, the stems dwindle away into a spindly growth and cease to form flower-buds until they apparently disappear altogether. As soon, however, as the time for the old wood to be cut down comes round again, they forthwith reappear and soon regain their former luxuriance. It is a glorious sight to see hundreds, nay thousands, of the lovely flowers expanded at a time, to enjoy which at home would well repay the little trouble and outlay of the trial to re-naturalise this lovely plant in English gardens. The Lady's Slipper does not seem to be at all fastidious, for I have had a plantation of it in England on soil and under conditions both widely differing from those described, but the plants flourished and increased the number of their flowering crowns amazingly from year to year.

Munich.

E. HEINRICH.

Odontoglossum tripudians.—A good form of this somewhat despised species is well worth a place, especially as it blooms when most similar kinds are out of flower. The plant resembles *O. crispum*, and, like it, may be grown quite cool. The flower-spikes appear in the base of the leaves and carry a good many blooms. These are dull yellow-green externally, inside the segments are bright yellow, with several rather large blotches of chestnut-brown. The lip is whitish in ground colour, variously spotted with rose and violet-purple. It is a native of Peru, and was introduced about 1809.

Lelio-Cattleya Statteriana is the result of a cross between *Laelia Perrini* and *Cattleya labiata*. A fine form is now in flower in Messrs. J. Veitch and Sons' nurseries at Chelsea. The flower is like a much enlarged and improved variety of *L. Perrini*, the sepals and petals being much broader, owing to the influence of the *Cattleya* parent. The lip is larger and more open than in *L. Perrini*, but almost identical in colour. The white throat is in striking contrast to the bright purple front lobe. It is a distinct and fine addition to this ever-increasing section of hybrids, and is a great improvement on *L. Perrini*. It was raised by Mr. Seddon 1893.—*STELIS*.

Cypripedium Allianinum superbum.—This hybrid, between *C. Spicerianum* and *C. Curtisi*, was raised in the collection of Mr. E. J. Measures. It is superior both in size and colour to the typical *C. Allianinum*, raised in Messrs. Pitcher and Mauds' nursery in America. The dorsal sepal measures 2½ inches across, white at the top, with a heavy suffusion of rose, and veined with a darker shade. It has the usual characteristic of *Cypripedium Spicerianum* in the blood-red band down the centre. The petals, which each measure 5 inches from tip to tip, are pale green, heavily suffused with reddish brown, and longitudinally lined and spotted with dark brown. The pouch is remarkably large, and resembles that of *C. Curtisi* in shape, the colour dark brown, shading to pale green.—*STELIS*.

Cypripedium tessellatum porphyrum.—A fine form of this rare and lovely *Cypripedium* is now in flower in the nurseries of Messrs. J. Veitch and Sons at Chelsea, where it was raised by Mr. Seddon, and first flowered in 1881. It is the result of crossing *C. concolor* with *C. barbatum*. The dorsal sepal is buff-yellow, heavily suffused with deep purple and veined with a darker shade. The petals are similar in colour to the dorsal sepal, and thickly spotted towards the base with blackish purple; lip deep purple in front, shading to yellowish green at the base. The flower-scape carries two flowers. If possible it should

be suspended from the roof, and care must be taken to avoid drip and moisture getting into the axils of the leaves at this season of the year. If water is allowed to accumulate, it is liable to cause the dried spot to which hybrids belong to this section an object.—S. S.

Celegyne fuscescens.—This pretty species is seldom seen, but is a well marked and useful kind at present in flower. The pseudo bulbs, each about 4 inches high, support a pair of deep green leaves. The bloom-spikes are pendent from the base of these and carry five or six large brownish yellow blossoms. It thrives best suspended from the roof in a somewhat shady position and an intermediate temperature. Either baskets or pans may be used for it, and the compost may be the usual mixture of Peat and Moss. Only a thin layer of this need be given at first, as this can be added at intervals. It requires a good supply of moisture while the growth is active and must never be quite dry at any time. It is a native of Burmah and was introduced in 1845.

Odontoglossum Hallii magnificum.—This is one of the finest of the varieties of *O. Hallii*, and has just flowered from an importation of *O. Hallii xanthoglossum*, which it resembles in its yellow fringed lip. The sepals and petals have the usual yellow ground colour, but this is almost hidden by a large rich chocolate blotch. Like the type, it throws up an erect many-flowered spike from the base of the maturing pseudo bulb, and this takes a considerable time to come to perfection. In habit and general characteristics it comes very near *O. cirsium*, the bulbs being longer than is usual in the *O. luteo-purpureum* section, which it resembles more in the flowers. It is a good doer, and may be grown in the coolest house. It should be repotted early and in medium-sized pots, using a free and open compost, consisting of equal parts of peat and Moss over good drainage.

NOTES ON DENDROBIUMS.

The majority of these are now at rest, only a few of the early flowering species being as yet in bloom. Though few Orchids need more heat than these while growing, the deciduous species at any rate require very little during the winter months. In a greater degree than most Orchids, their time of flowering depends upon their treatment now, and it is quite easy to retard many of them that may be required in flower at a given date. At this early season such plants as *D. nobile* would require about seven weeks after being put into heat before they are well in bloom, but as the days lengthen after the turn of the year rather less time may be allowed, as the buds, although showing no outward signs of activity, must of necessity be more forward. Naturally those plants that are best ripened should be chosen for the earliest batches, and care will be necessary even with these. An old-fashioned plan to get early blooms is to suspend the plants with their heads downwards, and plentifully sprinkle the bulbs with tepid water, at the same time keeping the roots absolutely dry. I have known this successful, but occasionally—and, I think, always in the case of unripened plants—a large percentage of the nodes will break into growth. In any case the plants must be returned to the normal position as soon as the buds can be plainly seen; otherwise, owing to the habit the flowers have of twisting at the ovary to face the light, they will present a curious appearance when in bloom. The more gradually the plants come on and the less they are forced the more flowers will be produced and of the better quality these will be. Just now we are more nearly concerned with the resting period, and this must be made as thorough as possible. As the last of the leaves fall the water supply must be en-

tirely suspended, and without mentioning more, all the Pierardi, Parishi, Devonianum, primulinum, and similar kinds are quite safe in a temperature of 45° at night. There are others, such as the nigro-hirsute group, including *D. formosum* and *D. infundibulum*, that would be much better if they could be induced to rest entirely for a time, but usually they are on the move and must be treated accordingly. A stimulating temperature is not needed, of course, but a gentle growing heat with all the light obtainable. The evergreen kinds do not, as a rule, take kindly to a very low temperature. They are at rest and must be kept so, but a minimum of 50° is quite low enough for *D. densiflorum*, *D. Farmeri*, *D. chrysanthum* and the rest in this section. *D. nobile* cannot be said to be strictly deciduous, yet its behaviour mostly resembles that of this set, and although, being a hardy and vigorous kind, it is not seriously incommoded by a rather low temperature, yet, I think, better results would often accrue if this were wintered with the evergreen kinds. The beautiful *D. Falconeri* requires care during winter. Like the black-haired group, it cannot always be kept dormant, but if this can be managed and the plants given cool treatment, if only for a week or two, they will come away in spring with increased vigour. The pigmy *D. pulchellum* is, as a rule, more amenable to a restful mode of treatment, and will stand a month or two in quite a cool house with impunity, though on account of its tiny pseudo-bulbs very dry treatment must not be persisted in. *D. Brymerianum*, *D. fibramium* and its variety, and *D. moschatum* are all, strictly speaking, evergreen kinds, but they all require more drying during winter than those of the evergreen set named above, while *D. chrysanthum*, decidedly a deciduous kind, is usually growing at this season, and must consequently be kept moist. Many other instances might be quoted, but the observant cultivator will note them for himself and vary his treatment to meet his own requirements and the wants of the individual plants under his care, for it is noteworthy that these, even of the same species, behave a little differently in different collections. One thing is necessary in all, and that is to complete a riddance as possible of all insect pests while there are no tender young shoots for them to spoil. The foliage of the evergreen and the stems of the deciduous kinds are harder now than at any other time, and in consequence not so liable to be injured by insects. Have every part of the plant thoroughly wet before using any of these, and keep in mind that a couple of weak doses are more effectual and less likely to do harm than one strong one.

H. R.

SOPHRONITIS GRANDIFLORA.

The brilliant scarlet blossoms of this delightful little Orchid are now open, and lasting as they do for over a month, their value is obvious. There is nothing particularly about the shape of the blossoms, but what they look in form they make up in brilliancy, and they impart a very cheerful look to the cool house during the dull winter days. They are very large in comparison with the size of the pseudo-bulbs from the top of which they are produced just at the time the bulb is maturing. The dual strain thus brought upon the roots makes it imperative that these should be well looked after, especially as regards moisture. While many other kinds are requiring much less water than they have been taking through the summer, the supply to these must be kept up or weakly growths in spring must be looked for. After the flowers are past and the pseudo-bulbs have swollen to their full size there is usually a

quiet season for a time when a much smaller quantity of water suffices, but even then they must never be allowed to get absolutely dry, while should new growths break away again at once the water supply must be kept up accordingly. The actual quantity of water required will depend upon the class of material they are growing in, and the size of the pot or pan. Large pots are a mistake, for the roots do not as a rule extend very far from the centre of growth, and are apparently more at home clinging closely to rough pieces of charcoal and similar material in a restricted area than pushing through 2 inches or 3 inches of compressible peat or Moss. I have seen nice plants grown upon rough blocks lightly dressed with Sphagnum, and, indeed, this seems to be a very natural holding for them, but the trouble in keeping them moist will always go against this mode of culture for any plants that can be grown otherwise. I invariably use pans large enough to allow about an inch of compost around the plants, and fill these half full of drainage. Cover this with a thin layer of Moss, wrap a little Moss and peat around the base of the bulbs and place them in the centre of the pan. Finely broken crocks and charcoal are then placed up to the rim and simply surfaced over with compost. In this medium it is impossible for the roots to be scattered, and most of it falls away readily when repotting again becomes necessary. Notwithstanding the lightness of the make up the plants are easily fixed by pressing the compost firmly with the finger, which would not be advisable if a greater thickness were allowed. Whether *Odontoglossum grande* will thrive in this Sophronitis may also be grown, but the very coldest treatment, as according to *O. crispum* and its allies, is not so suitable. It grows naturally on trees at a considerable elevation in Brazil, whence it was introduced in 1837.

ORCHID NOTES.

THERE is no better time for a thorough overhauling of the Orchid house than now, repotting being nearly at a standstill and many of the plants at rest. The roof glass stages and walls must all be thoroughly cleaned as advised recently for the cool house, and before re-staging the plants each one must be carefully cleaned. Where the plants are staked most of the stakes should be drawn out and all old ties removed. If there are any old and spent pseudo-bulbs or decayed leaves, cut these out first and then thoroughly moisten every part of the plant with tepid water. Have ready a weak solution of soft soap and tobacco juice, and take each bulb and leaf separately whether insects are observed on them or not. When these are done the rhizomes must have attention, removing some of the sheaths about the bases of the bulbs if necessary, to destroy the insects of the scale tribe. Once thoroughly done in this way, the plants will give no more trouble until spring, that is, unless any were really badly infested, in which cases it is better to look over them again in about a fortnight, to make sure of none being left behind. The plants may then be again neatly tied up and arranged on the clean stages. While on the subject of tying, it is worthy of note that many amateur growers use far too many stakes, spoiling the appearance of the plants. One good strong and not stake in the centre of the pot is sufficient for all medium-sized plants or those in pots up to the 18-in. size. Base tightly twisted is the best material for tying, as it lasts longer than raffia, and the bulbs can be separately looped from the central stake, forming a neat and tidy plant with very little trouble. Most of the pseudo-bulbous division of Orchids grow in an intermediate temperature, such as *Braesia verrucosa*, *B. lancana*, *B. maculata* and others. *Chrysobasis*, *Maxillaria* of sorts, many Epidendrums and others, will by now be nearing completion, and must be watered according to the state of growth. *Miltonia vexillaria* is in full growth, and must be encouraged by a warm, humid atmosphere, with plenty of air on all possible occasions and a good supply of moisture to the roots. Anythat require it

may still be reported, but it is high time that this work was completed and the roots working well in the new compost.

Canna is still active in the cool house, and a nice growing temperature with abundance of fresh air must here be maintained. Plants potted as advised some few weeks ago are now rooting away freely. Flower-spikes are appearing on all sides now, *Odontoglossum Pescatorei*, O. luteo-purpureum, O. Hallii, O. crispum, and a host of others in this section pushing up strongly. Keep a watchful eye against slugs and woodlice, the latter being even a more insidious foe than the former, for these at least leave their trail behind, while their mischief is mostly done above ground. The woodlice, on the other hand, often make havoc with the roots far down in the pots out of sight. Insects are always in evidence where dirt and rubbish are allowed to collect about under the stumps and on the paths. The temperature in all the houses must be kept as steady as possible now, the minimum for the cool house being about 53° at night, 60° by day, the Catleya house 55° and 70° respectively, the warmest house ranging from 60° on cold nights to about 75° by sun-heat on bright days. These figures are, of course, to a certain extent approximate, but the nearer they are kept to in all cases the better.

Cypripedium nitens.—This is one of a numerous set of hybrids raised between varieties of *C. insigne* and *C. villosum*. It originated in Messrs. Veitch's nursery at Chelsea, but has since been raised in several other places. It most resembles its seed-bearing parent in growth and also in the lower parts of the flower, but the dorsal sepal is very similar to that of the best forms of *C. insigne* Maulii. It will thrive best in the Catleya house in the usual compost and under the conditions frequently advised for *Cypripedium* generally.

Cymbidium elegans.—This species is seldom met with, and is apparently rare in cultivation. The pseudo-bulbs are rather small and bear erect sword-shaped leaves, from the base of which the flower-spikes spring. These carry a good many blossoms, small individually, and seldom opening more than half way. The sepals and petals are dull yellow outside, the inner surface being brighter and faintly lined with dull brownish red. The lip is similar in ground colour, but spotted about the centre with deep crimson. It is a native of the East Indies and thrives in the warmest house. The compost must be substantial, and a free supply of water maintained all the year round.

Vanda cerulea.—In your very flattering notice of the *Vanda cerulea* shown by me last Tuesday I must correct one cultural statement, as I fear it might cause disappointment unless modified. The plants are grown in a Muscat house from early in April till the first drop in temperature comes in October. They then are removed to the strict unheated part of the Cattleya house, where they show themselves to much enjoy the greater warmth, and moisture. After flowering is over they are gradually dried off. The first sunny days in February they are put into an ordinary plant house and only watered if they shrivel, resting them thoroughly, and with plenty of air on sunny days, till they go back to the viney in April to be treated like the Vines.—E. H. WOODALL.

Cypripedium insigne Sandersoni.—This is without doubt the finest of the yellow forms of *C. insigne*. It was originally discovered by Mr. Maynard amongst a batch of imported plants in the nurseries of Messrs. F. Sander & Co. The dorsal sepal is pale green at the base, shaded with yellow and veined with a darker green, the upper half and outer margin clear white. In the centre of the basal half are several minute brown spots. The petals are of fine form, pale yellowish green, veined with a darker shade of green. The lip is of a soft lemon-yellow, veined with a darker colour; the lower sepal also pale yellowish green, veined with a darker shade. It has a charac-

teristic pale green flower stem 8 inches to 10 inches long.—S.

Angrecum Scottianum.—This is a very attractive little plant when in flower, and quite distinct from the usual run of Angrecums in that it produces a long thin stem with the cylindrical leaves occurring in a dichotomous manner along this. The flowers usually occur in pairs on axillary spikes, and are pure white with an elongated spur at the base of the lip. During the summer the plants are almost aquatic in their needs. Overhead sprinkling is a great help in fine weather, but must be discontinued during dull spells. In winter a slightly drier atmosphere is advisable, and all through the year the plants need abundance of light. The stems have a very natural appearance when growing on long pieces of Tree Fern stems, and this material is excellent as a rooting medium. In the absence of these plants may be grown in baskets suspended from the roof in the East India house, plenty of charcoal being mixed with Sphagnum Moss as a compost. As many of the roots as possible must be covered with this material, this tending to the production of others higher up the stems, which will form excellent auxiliaries to those in the basket. It is a free-flowering species, often producing two sets of flowers in one year and is a native of the Comoro Islands, whence it was introduced by Sir John Kirk in 1873.

STOVE AND GREENHOUSE.

PENTAS CARNEA.

This useful old free-flowering stove evergreen shrub is not grown nearly so extensively as it might be. Its culture is of the easiest description, and it grows and flowers most freely when given an ordinary stove temperature. Dwarf plants are exceedingly useful for filling vases in rooms during the winter months, and they do not suffer in the same way as many other things when subjected to the unnatural conditions that surround them in drawing or sitting-rooms. The trusses of flowers when cut with a good length of stem associate well with other cut blooms, and they are very effective when used alone. They also possess the good feature of lasting in good condition for quite a week if the water is kept changed. Cuttings made of the young growth strike freely in a sandy compost, placed under a bell-glass or in a propagating frame. When well rooted they should be potted off into suitable sized pots and shifted on again as soon as they have made plenty of roots. The size of pot for the last shift will depend on the purpose the plants are required for. As a rule 8 inch pots are large enough for growing plants in to furnish cut blooms, and 6-inch or 7-inch for plants intended for house decoration. A compost consisting of three parts loam, one part leaf-mould, and a liberal addition of silver sand suits their requirements and promotes a short-jointed growth. Frequent stopping of the young growth is necessary until good bushy plants are formed, after which they may be allowed to flower. When commencing to bloom, water guard water is beneficial, as it not only leads to finer trusses of flowers being produced, but it also assists the plants to break back more speedily, with a resulting fresh crop of blooms.

For furnishing plants for winter blooming, the cuttings should be struck about the end of May and grown on afterwards without a check, keeping all flowers suppressed in the meantime. To have the plants dwarf and stocky, they should be kept close up to the light, and a light shade during sunny weather is necessary. I am trying an experiment with this plant this season, and have planted out some old specimens in a Melon house and trained them on the trellis. So far they have given excellent results by furnishing great quantities of bloom, and appear likely to do so throughout the winter months. The soil they are planted in is nothing else but the bed in which the Melons

were grown, and they seem to be quite at home in it. If the experiment proves a success eventually, it will be an easy method of growing plants for cutting from, as a good batch can be held in readiness for setting out as soon as the Melon plants are dispensed with in the autumn. I would advise those who do not already possess the plant to obtain it if they require a free-flowering subject for the winter months, and if grown in the way described, I venture to think they will not regret having done so.—A. W.

—Being just now studded with its clusters of pale pink or bluish coloured blossoms, this Pentas is valuable as a pretty winter-flowering stove plant. Its value in this respect is still further enhanced by the fact that a succession is kept up for some time. The blossoms are in a general way more valuable at this season than any other, and in order to obtain plants for blooming during the latter part of the autumn and in the winter the cuttings should be struck early in the spring and the plants grown on freely afterwards. The roots are not particularly vigorous, and from this circumstance the little plants may be grown in pots 5 inches in diameter. They should during the growing season be stopped occasionally in order to ensure bushy habits of growth. The flowers remain fresh longer, cut for a longer period than their appearance would lead one to suppose. A variety of the above, which is, however, usually referred to as a distinct species under the name of *Pentas kermesina*, produces blossoms of a bright carmine-red tint. The individual blooms are somewhat smaller than those of *P. carnata*. The constitution is less robust, and *P. kermesina* is, as a rule, met with much less frequently in gardens than was the case a few years ago.—H. P.

Hippeastrum auriculatum.—The pointed petals and general contour of the flower of this Hippeastrum, or Amaryllis as it is more generally called, stamp it as perfectly distinct from the broad-flowered garden varieties, while the fact that it can be had in bloom during the last two months of the year furnishes another distinctive feature. It stands out very conspicuously just now at the cool end of the stove, for the flower-trusses reach a height of a couple of feet or so; hence the large showy blossoms tower above many of their associates. The flowers are of a bright scarlet-crimson, veined with a deeper shade.—T.

Azalea Deutzia Perla.—This is probably the most useful of all Indian Azaleas, as it comes into bloom very early in the season without anything approaching forcing. I had some plants that expanded their pure white blossoms in the open air in September, and since that time I have had a succession of bloom from plants in quite cold houses. If slightly forced one year and allowed to complete their growth early under glass, the plants will naturally bloom the next season quite soon enough without the aid of any artificial heat. Being semi-double and the petals beautifully rounded and firm, they are the very ideal flowers for cutting.—J. C. GOSPORT.

Poinsettias.—These are now in their full beauty, and at any season of the year it would be difficult to find anything to surpass them in brightness. A great point in their favour is that they last a long time; they may also be grown in the neighbourhood of London without being seriously affected by smoke and fogs. Strong and healthy plants I have never known to fail to produce good heads of their brightly coloured bracts. I find that after the bracts are well developed, sunshine is rather detrimental than otherwise, as it bleaches the colour out to some extent. I believe many growers fail to do Poinsettias successfully through propagating too early in the year. It is difficult to keep the old stock plants dormant after April, but if when they have made some growth they are cut back close, they will make a fresh start later on. The end of June, or even July, is quite early enough to propagate, and if good strong cuttings can be had in August, there will be time

to make good plants. Where stock is limited, it may be well to start propagating early, and the tops may be taken off the young plants after they are well established. Poinsettias do not require a great heat, but should be grown close to the glass and fully exposed to the light. A little extra warmth when the tracts begin to show colour will be beneficial.—A.

Tydas from seed.—In some catalogues one meets with quite a long list of named varieties of Tydas, all of which are beautiful, while the majority of them have their blossoms very quaintly marked. In purchasing any the best time of the year to do so is when they are dormant, as then the small caterpillar-like rhizomes do not occupy much space and can be readily sent by post. If about to commence their culture, it is by no means absolutely necessary to begin with named varieties, as a pinch of seed sown early in the year will, if the young plants are grown on in a satisfactory manner, form neat little specimens, the flowers on which are just now rapidly expanding. I recently saw a quantity of seedlings of the present year that formed a charming feature in an intermediate house, as they not only yielded a considerable wealth of blossoms, but in their colour and markings there was a very great amount of variation. The plants included, no so useful, had not given a great amount of trouble, as the seed was sown in beds at the end of February, and when the young plants were large enough to handle they were pricked off. The next move was to pot them into small pots, and when large enough they received their last shift into pots 5 inches in diameter. These Tydas prefer a fairly open compost, and on that account a mixture of equal parts of loam and well-decayed leaf mould, with a good sprinkling of sand, will suit them well. When the roots have taken possession of the soil in their flowering pots, weak liquid manure occasionally will greatly benefit the plants. The specimens just referred to had been kept during the summer in a cold frame, but were removed to an intermediate house when autumn set in.—H. P.

EARLY CALLAS.

THE term "early Callas" is at times subject to a rather wide interpretation, and not a few gardeners consider Christmas as early for the flowering of these useful plants. For many years, however, with a batch of several hundreds I have been able to secure a fine display of these flowers from the middle of September onwards. This, in fact, is the season that I have come to regard as "early" for the flowering of the Calla. The plants were grown for profit, and I may also say more closely reached that very desirable goal at the time stated than at any season of the year. The reason of this is not far to seek. September and October are months replete with harvest festivals and the like, which give a decided stimulus to the sale of the flower in question, and upon more than one occasion have I the spathes realised quite exceptional prices, which on average was very high indeed, and I have good reason to believe that increased rise in price was due to the cause stated, coupled with the fact that Callas were not plentiful on the market at that time. From planting out and lifting it is not possible to get these early blooms, and, as stated at p. 439 of *THE GARDEN* by "C. C. H." placed in a cool house they are somewhat slow to push up their blooms. Indeed, I have known instances where strong heat has been absolutely needless to get lifted plants into good flowering at Christmas. Then, again, in low and moist districts, particularly near London, there is always the possibility of having to fight their greatest enemy—fog, and while this overhangs them no heat within the house will induce their spathes to move or to become white. In fact, they incline day by day to a sort of green tint. This is most provoking, particularly when a good show is apparent and perhaps the first of the season, for the blooms thus held in check by the poisoning influences of the fog are of but little use only for very inferior work. These

who favour planting out have always points to recommend in its favour, but the best proof of the superiority of any system can only be measured by the yielding power of the plants for the season. A dozen or more years since I proved from a flower-yielding and profitable standpoint that planting out was useless, and since then I have always kept the plants in pots the whole year round, reporting them annually each year early in August. The treatment is a very simple one and is as follows: In the middle of May the plants are turned out of the houses and placed in a cold, deep pit, and presently water is withheld and by degrees discontinued altogether. Six weeks of absolute rest, without any water, the pots meanwhile stacked in a pile on their sides. After this period the pots are again placed on a stand of straining ground, and if no rain comes they are watered once a week till the time of potting in the first week of August. At that time the plants are shaken out and a good, rich, fairly holding soil given, taking away the useless material from the base. The larger corms are planted in 4-inch pots, two of a smaller size, covering the roots about half an inch or so. Watering is done, a thorough watering is given and afterwards as required. Renewed growth soon sets in, and with a vigour that would surprise anyone unacquainted with the system. By these means every newly-made root is secured to the full benefit of the plant, which in no wise can be urged for the planting-out system; and what is more, these plants potted in August can, by housing them a month later and by a perfectly cool system of treatment, be had in flower by the middle or third week of September, and as the roots fill the pots and fuller leaf development ensues, the number of spathes increases. Under this treatment, by the middle of November I have obtained by actual figures an average of some half a dozen spathes per pot before the disastrous fogs set in as a rule, and also before a solitary spatha by the same temperature is forthcoming from the planting-out system. The value of the system recommended I have the fullest confidence after years of continued success, and those of your readers who have any use for these Callas in September and October will do well to adopt it, and by obtaining these early blooms, the plants are equally profuse, afterwards flowering continuously with the aid of liquid manure till turned out for the twofold purpose of a season's rest and to give place to a more profitable crop for the summer.

E. J.

EUPHORBIA JACQUINI-EFLORA.

NEXT to the Poinsettia, this is one of the brightest subjects we have for this season of the year. It is more difficult to manage than the Poinsettia, requiring careful treatment throughout. The very slender roots are liable to be killed, either through drought or excess of moisture. It is of the first importance to have strong settings to start with, and this can only be done by taking care of the old plants after the flowers have been cut; the plants are often rather shabby looking and often get relegated to some obscure corner, where they are apt to get neglected. A very few plants kept in good condition will give a lot of settings. Unlike the Poinsettias, the earlier in the year these can be taken the better. There is little difficulty in rooting the cuttings. Taken off close to the old stem, they will have a good base, but from longer growths it is necessary to cut them off quite close below a leaf, only putting the cuttings in just deep enough to keep them firm. Sand, peat and leaf-mould in equal parts, and good drainage, should be used for the cutting pots; I like to put them in singly into small pots. When ready for potting on, some loam and a little manure may be added to the compost. Early-struck plants may be stopped once or twice, but only the tips should be taken out. Later-struck plants may be grown three in a pot. It is a mistake to suppose this Euphorbia requires ripening off; the more freely the plants are kept growing the longer will be the racemes of bracts,

when required only for cutting it may be planted out with advantage, especially if it can be planted where there is a little bottom-heat, using rough, porous compost and plenty of drainage. It should be well exposed to the light, and with good treatment will stand full exposure to the sun. During the summer artificial heat may not be required, but as soon as the nights begin to get chilly, a little heat will be necessary. If allowed to remain in a cold house, the mischief will not be apparent until put into heat, when the leaves will quickly fall off. A. H.

Manettia bicolor.—This is not so often met with as it deserves, and I find it is a stranger to many gardeners, who on making its acquaintance at once recognise it as a useful, though not a very conspicuous plant. Where there is a daily demand for button-hole flowers, this little Manettia might be frequently used alone or in company with other flowers of a suitable kind, the only objection being that its short and slight stems need wiring in order to set them up. This in many cases would not be regarded as an objection, because the resultant bouquet would have a light and airy quality about it, equal to many Orchids, which are such favourites for button-hole work now-a-days. Another valuable point in connection with the Manettia is the continuous nature of blooming. On a healthy plant flowers are constantly developing during the summer and autumn months—at least this is my experience of it growing on strained wires near the glass and in a pot. No doubt if planted out the flowers would be larger and the stems of greater length and stiffer, so that the necessity for wiring would be minimised. It is strange that provincial exhibitors of espagnoles, which are always an interesting feature, should not have brought this into greater prominence. Light sprays would have a decidedly telling effect arranged among other flowers, Ferns, and grasses. For house decoration too, it would have, or ought to have, a similar value.—W. S. Wills.

Ivy-leaved Geranium Souvenir de C Turner.—At p. 439 Mr. Crawford writes very briefly of the variety Souvenir de Charles Turner. I wish to add to his praise of it as an excellent winter-flowering variety. For this purpose I grow it largely, having at the present time quite 200 plants in 6-inch and 7-inch pots. A more free-flowering variety there could not possibly be. I gather several dozen trusses weekly and still they come, and likely too, right throughout the season. Another advantage is its adaptability for packing and carrying long distances. Mine have to go to London with other flowers for decoration, and they withstand this trying ordeal excellently. Being kept at a temperature of 60° in a light and dry house, the trusses are thrown up with a good length of stem, and the colour of the flowers is well maintained. I have also used them for church decoration where daily services are held for a week together, and at the end of this time they were almost as fresh as when cut. Buds which are just commencing to open will unfold in water. As stated by Mr. Crawford, early propagation is essential, the cuttings being induced during the first week in March. Late propagation is useless, because plants do not produce the quantity of flowers earlier ones will. Yearling plants are also the most useful, older plants not producing nearly so many flowers. My plants are grown in frames facing the south, the lights being removed during the three hottest months, the buds also being kept picked off till the middle of September. The wood being well ripened, and yet not starved, flower-trusses will form at almost every joint. I have got several other varieties I am going to give a similar trial to next season, as I think some of the others under like treatment may produce equally good results. In packing for carrying long distances the trusses are better gathered overnight and placed in water, and in the morning packed in small shallow deal boxes in a single layer. If packed with other flowers in larger boxes, the delicate petals are liable to be bruised.—A. YOUNG.

FERNS.

THE HARDY FERN GARDEN.

THE marriage of the fernery and the flower garden is worth effecting, our many hardy evergreen Ferns being excellent for associating with hardy flowers. There are many varieties of our native Polystichums, Hartstongues, Blechnums, which would be excellent companions to evergreen herbaceous plants suited for sheltered, half-shady nooks, and there are hardy and vigorous exotic kinds. Graceful effects may be developed in foregrounds, in drives through glades, and in many other positions by the bold use of the larger hardy Ferns, whether evergreen or not.

plant of dwarfer habit. The Ferns themselves are much benefited by this, because there is not very excessive evaporation during hot weather; but the small Ferns are best without any carpet, save what they form of their own. The Fern-lover will remember that not only have we our own beautiful native Ferns for adorning our gardens, but also the hardy Ferns of America, Asia, and the continent of Europe.

As to the hardiness of exotic Ferns, Mr. Milne-Redhead writes from Clitheroe:—

It is not strange that we so seldom see, even in good gardens, any well-grown plants of exotic Osmundas, Struthiopteris, &c. Here, after a long spell of hot, dry weather, we had on May 20, 1886, a sharp snap of frost which completely cut off the more than usually beautiful

winter, and is now throwing up healthily its pretty triangular fronds, whose under surface is quite white with the powder peculiar to the genus—in fact, a hardy Silver Fern.

A recent visit to Mr. Slater's Fern and rock garden at Newick reminded us forcibly of the good effects that may be had by using the nobler hardy Ferns—both native and foreign—in a bolder way, and often as need be in the open sun. The idea that a fernery is best in a dark corner has had unfortunate results in keeping the grace of such plants out of the garden picture. And we notice with pleasure that hardy Ferns are being used in bold and simple ways at Kew, in which at one time they were in an obscure fernery. Even if some Ferns require dense shade, many do not in our cool climate.



Effect of brake in foreground. Engraved for THE GARDEN from a photograph by Miss Willmott.

The Bracken is everywhere; but there are Ferns of graceful form which delight in the partial shade of open woods and drives, and succeed even in the sun. Ferns have, as a rule, been stowed away in obscure corners, and have rarely come into the garden landscape, though they may give us beautiful aspects of vegetation not only in the garden, but by drives. In countries where hardy Ferns abound, they are often seen near water and in hollow and ditch-like places, and it will often be best to group them in such places, but without any of the ugly aspects of "rockwork" too often supposed to be the right thing in a hardy fernery.

The beauty of a fernery is much enhanced if the larger kinds of Ferns grow out of some

flowers of Azalea mollis, and seriously injured the young growths of some Japanese Pines, such as *Abies firma*, *A. sachalinensis*, and others. This frost turned the young fronds of our English *Filix-mas* and *Filix-femina* quite black. Close by these plants, and under similar conditions of soil and exposure, the American *Adiantum pedatum*, I fear high, and the tender-looking *Oncoclea sensibilis* were quite unharmed, and *Osmunda interrupta* and *O. cinnamomea* entirely escaped and are now very fine. Our English *O. regalis* was slightly touched, but the Brazilian *O. spectabilis* brought by myself from dry banks in the Organ Mountains was not even browned in its early and delicate fronds. All the Ferns I have named are great ornaments to any moist and rather shady place in the shrubbery. In a sheltered nook in the rock garden I find, to my surprise, that *Gymnogramma triangularis* has survived the perils not only of a frosty spring, but the still greater ones of a wet autumn and

winter, and is now throwing up healthily its pretty triangular fronds, whose under surface is quite white with the powder peculiar to the genus—in fact, a hardy Silver Fern.

Many hardy Ferns are excellent for association with hardy flowers, and many may be grouped with evergreen rock and hill plants in forming borders and groups of evergreen plants—so desirable in places near the house. Though we have enough native Ferns in these islands to give us very fine effects, as we see at Penrhyn, or wherever Ferns are boldly grouped, many may not be aware of the number of exotic kinds that are hardy in our country, and some of them bold in habit and fine in effect where well placed.

Some of the finest Ferns we see at Newick, and also at Ishiana and other gardens, are natives of North America. Among these are the Feather Ferns, the American Royal Ferns, and the Onoclea, which is in wide masses at Newick.

HARDY FERNS AT NEWICK PARK.

Few people seem to give much attention to hardy Ferns, and in most gardens if there are any at all, they are usually planted in some out-of-the-way spot where no one sees them. Rarely do we find them well grown or an important item in the garden picture. Botanically they have not lacked attention, and the multiplication of more or less monstrous forms has been great, but few of these have any value in the flower garden. The bold and handsome Ferns of our own and other countries deserve something better than to be condemned to a miserable existence among a lot of decaying roots which the conventional idea always associates with them. There is much to be gained in point of beauty, and we shall get a new feature of interest in our gardens by bringing out these fine Ferns into the full light of day and associating them with some of the noblest hardy flowers. This has been well done by Mr. Slater in his charming garden at Newick Park, Sussex, and with the happiest results. Here Ferns in bold groups and masses are interspersed with noble leaved and fine flowering hardy plants along a delightful open, moist dell, the luxuriant growth showing that perpetual shade overhead is not essential, and may, in fact, be wholly dispensed with if the conditions of soil and site are otherwise favourable. The Royal Fern we have rarely seen in greater beauty in an English garden—a tall and spreading mass of fronds. Following out the same idea, other Ferns similarly massed on a bold scale appeared to better advantage than as usually seen in isolated tufts. *Onoclea sensibilis*, covering about 20 square yards of ground in front of Rhododendrons, made a fine group of graceful growth, as desirable to have as it is infrequent to see. *Struthiopteris germanica*, too, made an imposing mass, its fronds of great length, and the effect striking by reason of the open vase-like arrangement characteristic of this family. *Lastreas* and *Athyriums*, although native plants, lost none of their grace and dignity here in association with exotics, and they are indispensable wherever Ferns can be grown, as if we do not preserve them in our gardens we may lose them altogether, at any rate in the south, for the assiduous Fern hunter has pretty well depleted the hedgerows that once were full of them. *Polypodiums* and other Ferns of lower growth made pretty carpets over smaller areas of ground, mingling with Rockfoils and Stonecrops, and throughout the whole dell Ferns were growing in a charming way, yet relieved of any tendency towards sameness through the perfect blending with shrubs and good hardy flowers.—A. H.

BRITISH AND EXOTIC FERNS HARDY IN ENGLAND.

DECIDUOUS KIN.

The name "British" is very suggestive of the hardy character which Ferns native of Great Britain should possess; but, if the nature of the habitats in which some of the kinds are found growing in a wild state is taken into consideration it will soon become apparent that, while the majority of British Ferns are perfectly hardy in every part of the United Kingdom, where they are able to withstand the severity of our winters with impunity, some are too slender and require to be protected

from hard and prolonged frosts, and must be grown in frames or in greenhouses not only to attain their full beauty, but even to live from year to year. Among these are the Maiden-hair Fern (*Adiantum capillus-Veneris*) and its several forms; the Sea Spleenwort (*Asplenium marinum*) and its several varieties; and the Filmy Fern *Hymenophyllum tunbridgense* and *Wilsonii* as well as *Trichomanes radicans* and varieties, which, although they are not injured by the cold, require to be protected against wind and a dry atmosphere.

The hardest of British Ferns are the common Male Fern (*Lastrea Filip-mas*, *propinqua*, and *pseudo-mas*) with their numerous and beautiful varieties, and the Lady Fern (*Athyrium Filix-femina*). These are numerous and equally beautiful varieties. They grow and flourish in almost any position and in any soil, although they thrive best when under the shade of trees, with constant moisture at the roots. The Broad Buckler Fern (*Lastrea dilatata*), the Mountain Buckler Fern (*Lastrea montana*), also known as *L. creperitis*, the rigid Buckler Fern (*Lastrea rigida*), the Marsh Fern (*Lastrea Thelyptidis*) are as hardy as the above-named, but the hay-scented Buckler Fern (*Lastrea amula*, *curvula* or as it is often called, *frondis*) only thrives in sheltered spots. Of the other hardy Ferns of a deciduous nature, the most prominent are the Royal Fern (*Osmunda regalis*) and its crested form *O. r. cristata*, and the common Bracken (*Pteris aquilina*) and its several crested and depauperated forms. Among the smaller growing kinds, also of a deciduous nature, we note the Parsley Fern (*Allotropa crispus*), the Oak Fern (*Polyodium Dryopteris*), the Beech Fern (*Polyodium Phegopteris*), the Limestone Polypody (*Polyodium calcareum*), and several sorts of Bladder Ferns or Cystopteris.

Besides the above-mentioned Ferns, which are natives of the British Isles, there are many others also of a deciduous nature, which are equally beautiful and quite as hardy as any of them. Foremost among the strong-growing hardy exotic kinds, there are the handsome North American *Osmundas*, *O. cinnamomea*, with its barren and fertile fronds totally different; *O. Claytoniana*, or, as it is commonly called, *O. interrupta*; *O. gracilis* or spectabilis, a very pretty species of particularly slender habit; the Sensitive Fern (*Onoclea sensibilis*), *Dicksonia punctiloba* or *polioliseuca*, the beautiful Canadian Maiden-hair (*Adiantum pedatum*), the North American Ostrich Feather Fern (*Struthiopteris pennsylvanica*), *Lastrea Goldiana*, *Woodwardia virginica*, all of North American origin and attaining between 2 ft. and 3 ft. in height. Among the smaller-growing kinds, we note *Asplenium nevadense*, *novboracense* and the *yteroides*, *Asplenium angustumifolium*, *Athyrium Michauxii* and *Woodwardia angustifolia*, all of which grow from 18 in. to 24 in. Among the small growing kinds, also native of North America, we note *Allosorus acrostichoides*, the very curious *Cystopteris bulbifera*, the handsome *Polyodium hexagonopterum*, *Woodsia obtusa*, *oregana* and *scopulina*, and also two pretty *Sclaginellas*, viz., *oregana* and *douglasi*. All these are of small dimensions, varying as they do from 6 inches to 12 inches in height. The remarkably pretty *Hypolepis anthonisifolia*, native of South Africa; the robust *Lastrea atrostrata*, native of India; the Japanese *Lastrea decurrens*, the massive *Struthiopteris orientalis*, also a native of Japan, and the remarkably pretty *Adiantum Mariesi* are all equal in hardness to any of our British deciduous Ferns. Respecting the latter species, which in Japan, where it was discovered

by Mr. Charles Maries while travelling for Messrs. J. Veitch and Sons, is extensively used for forming crosses, wreaths, to which purposes its flexible, slender rhizomes readily lend themselves, any doubts as to its hardness in this country have been effectually removed by its behaviour during the winter of 1894-95. Mr. R. Maries, a brother of the discoverer of the plant and a resident in Lancashire, writing in June, 1895, says:—

You will be glad to hear, I daresay, that *Davallia Mariesii* has stood the severe winter of 1894-95 here without any protection. The plant is growing on a brick wall, and is now making some vigorous growth and creeping along the bricks of a north wall.

This, coupled with the experience of several other growers, affords sufficient proof of the hardiness of that species.

EVERGREEN KIN.

Ferns which are perfectly hardy in all parts of the United Kingdom need not necessarily be deciduous. Some of the evergreen kinds, whether British or exotic, which stand the severity of our climate, are in every respect as hardy as those which are deciduous. For instance, no Fern could possess a harder constitution than the various small-growing *Aspleniums*, which delight in growing in old walls exposed to the cold winds and severe frosts, such as the black-stemmed Spleenwort (*Asplenium Trichomanes*), and its pretty crested and notched forms *cristatum* and *incisum*, the little Wall Rue or Rue Fern (*Asplenium Ruta-muraria*), the forked Spleenwort (*Asplenium septentrionale*), the alternate-leaved Spleenwort (*Asplenium alternifolium*), the lanceolate Spleenwort (*Asplenium lanceolatum*), the green-stemmed Spleenwort (*Asplenium viride*), and another of our wall-loving Ferns, the scaly Spleenwort (*Ceterach officinarum*). All these are small, seldom exceeding 8 inches in height, while the black Maiden-hair Spleenwort (*Asplenium Adiantum-nigrum*), popularly known as the French Fern, the hard Fern (*Blechnum Spicant* or *buccale*) and its several beautiful forms usually average from 9 inches to 12 inches in height. The genus *Polyodium* also contains some remarkably handsome plants of evergreen nature; even the common Polypody (*Polyodium vulgare*) is a very ornamental plant in its way, and is seen at its best when growing on a wall, on the branches of some decaying tree, or on the roof of a low house. But by far the handsomest of its numerous forms are the Welsh Polypody (*Polyodium cambricum*), the Irish Polypody (*Polyodium semilacerum*), the Cornish Polypody (*Polyodium cornubiense*) and its remarkably handsome, finely-cut varieties *elegansissimum* and *trichomanoides*, in which the fronds are of a light and feathery nature, being several times divided, and resembling very little indeed the typical species. Then there are the more or less heavily crested forms, *cristatum*, *grandiceps*, *multidio-cristatum*, &c., all of larger dimensions than the species from which they are issue. The common Hart's-tongue (*Scolopendrium vulgare*), also perfectly hardy, supplies us with numerous forms of beautiful appearance and of good dimensions. Foremost among these are the varieties named *crispum* and *crispum imbricatum*, having the edges of their fronds deeply frilled and fimbriated; *cristatum*, *cristatum*, *Coolingi*, *digitatum*, *grandiceps*, *Kelwayi*, *ramo-cristatum*, *ramo-digitatum*, *ramo-marginatum*, and *Veloisi*, all with more or less heavily crested fronds, averaging from 12 inches to 18 inches in length. To the above named may also be added the

curious corniculatum, laceratum, or endive-folium, exornare, keratoides, muricatum, perafens, and spirale, all very interesting, thoroughly distinct, and of medium dimensions. As regards strong-growing evergreen hardy Ferns, however, none can compare with the Prickly Shield Fern (*Polystichum aculeatum*) and the soft Prickly Shield Fern (*Polystichum angulare*), and its numerous and very beautiful varieties, such as aculeatum lobatum, angularis plumosum, both of which produce very massive fronds 18 inches to 24 inches long. Then there is an extensive section of varieties with finely cut fronds, such as acutilobatum, divisilobatum, d. hexagona, multilobatum, proliferum, p. Henleye, p. Wollastonii, and tripinnatum, in which the fronds in many instances are as finely cut as those of the Lace Fern (*Cheilanthes elegans*), and infinitely more massive in general appearance. The soft Prickly Shield Fern has also produced some remarkably crested forms, the most distinct among them being cristatum, cristato-gracile Grayi, grandiceps and polydactylum, all of which are equal in vigour and in dimensions to the typical species. The Holly Fern (*Polystichum lonchitis*) is also perfectly hardy, and is one of those plants which are usually killed with kindness, through being grown in a temperature higher than is required. As regards

EXOTIC EVERGREEN KINDS,

North America supplies the greatest part of those perfectly hardy in England. The larger-growing kinds from that country are *Aspidium cristatum* Clintonianum, *Aspidium floridanum*, *Asplenium angustifolium*, *Lastrea marginalis*, *Polystichum munitum* and *P. acrostichoides*, all of which sorts attain from 18 inches to 24 inches in height. Not less effective and quite as interesting as the above, though of smaller dimensions, are the North American *Asplenium ebenum*, the Walking Fern (*Camptosorus rhizophyllus*), *Phegopteris alpestris*, *Pellaea atropurpurea*, *Woodsia alpina* and *W. glabella* varying in height from 6 inches to 12 inches. There are also some remarkably strong-growing sorts, native of Japan, the most decorative as also the most distinct among these being *Lastrea Standishii*, known also as *Polystichum concavum*, with fronds 24 inches to 30 inches long, very massive, though much divided, and of a lovely and cheerful green colour; *Lastrea erythrosora*, with fronds 18 inches to 24 inches long, of a beautiful bronzy red colour when young, and of a deep dark green hue when mature. *Lastrea opaca* is another handsome Japanese form with fronds 12 inches to 15

inches long, comparatively broad and massive, of a lovely metallic colour when young, and of a deep velvety green when mature. In *Lastrea Sieboldii* we have a totally distinct plant, having the general aspect of a somewhat dwarf *Polyodium aureum* and of the same bluish colour. This and *Dictyogramma japonica* and its variety *tessellata*, which have somewhat bold and broad fronds, are also quite hardy, and so are the Japanese *Lastrea prolifica*, a species with finely-cut fronds, bearing on their rachises numerous small plants; the handsome *Polystichum setosum*, with beautiful dark green, shining foliage; *Polystichum Tsus-simense*, *Lastrea corsica* and *L. aristata variegata*. *Lomaria chilensis* is a large-growing Fern with fronds 24 inches to

4 inches in height, succeeds well when planted outside, as it is on the outside rockery in Kew Gardens, where its crown is simply protected by a handful of dry leaves during the winter. The three Japanese *Cyrtomiums*—*C. falcatum*, *anomophyllum*, and *Fortunei*—are all said to be hardy when protected by leaves in the winter, but experiments with these in the neighbourhood of London have not been very successful. —G. S.

Messrs. Birkenhead, of Sale, write us that the following exotic Ferns may be grown in the open air if the more tender ones are protected in winter by a covering of old fronds or soft hay pegged down over the crowns. These would be better in sheltered nooks in the rock garden in good peatyearth. Those kinds marked with an asterisk should receive protection in this form. Unless otherwise mentioned, the Ferns are native of North America.

American Maidenhair	Osmunda Claytoniana
Fern	<i>Adiantum gracile</i>
	<i>pedatum</i> japonica corymbi-
Allosorus acrostichoides	fera (Japan)
Aspidium cristatum	*Pellaea atro-purpurea
Clintonianum	"gracile"
fragrans	<i>Phegopteris alpestris</i>
nnevadense (Nevada)	<i>Dryptopteris</i>
Wood Fern	hexagonoptera
novaboracense	polypodioides
rigidum argutum	<i>Polystichum acrostich-</i>
spinulosum var.	oides
Boottii	a. <i>grandiceps</i>
thelypteroides	<i>incisum</i>
Asplenium angustifolium	<i>Brauni</i>
ebeneum (polypodioides)	<i>concaevum</i> (Japan)
*fontanum (Europe)	<i>munitum</i> (California). This is a fine
thelypteroides	vigorous Holly-
Athyrium filix-femina	Fern like variety,
americanum	w. imbricans
Michauxi	<i>polyblepharum</i> (Ja-
Betragia virginicum	pan)
*Cystopteris caryotideum (E. Indies)	* <i>fulguritum</i> (Austra-
falcatum (Japan)	lia)
*Fortunei (Japan)	* <i>setosum</i> (Japan)
Cystopteris bulbifera	<i>Selaginella Douglasi</i>
fragilis (american var.)	<i>denticulata</i> (hel-
Dennstaedtia punctilobula	veticas)
Hypolepis millefolium (N. Zealand)	<i>Struthiopteris germanica</i>
anthracicifolia (S. Africa)	(Ostrich - feather Fern) (Europe)
Lastrea (Nephrodium) *orientalis (Japan)	* <i>orientalis</i> (Japan)
*atrata (India)	<i>pennsylvanica</i>
*decurrens (Japan)	p. recurva. A very
fragrans (a very pretty violet-scented Fern)	distinct variety,
Goldiana	with the foliage
intermedia	recurved
marginalis	<i>Woodsworia alpina</i>
*opaca (China)	<i>glabella</i>
profida (Jamaica)	<i>ilvensis</i> (Europe)
Sieboldii (Japan)	<i>obtusa</i>
*virens (China)	<i>oregona</i>
Lastrea alpina (New Zealand)	<i>repanda</i>
chilensis (Chili)	W. alpina and W.
crenulata (Chili)	<i>ilvensis</i> are both
Onoclea sensibilis	British as well as
Osmunda cinnamomea	American

Pteris cretica Wimsettii.—This is now getting pretty well distributed. It has proved one of the best of recent introductions, being of rapid growth and producing spores in great abundance. These germinate quickly, so that there is no difficulty in getting up a large stock. It is remarkable that, though a seedling variety, there is little variation. Characteristic fronds



Native Ferns massed by shady walk. From a photograph by Mr. S. W. Fitzherbert, Torquay.

30 inches long and of a particularly deep green colour, while *L. alpina* and *crenulata* are two little gems with fronds only 4 inches to 6 inches long, but produced in great profusion. *Niphobolus linguus* is a very distinct Fern with entire fronds of a very leathery nature, dark green above and silvery beneath, having somewhat the general appearance of our common Hart's-tongue, but in this case the fronds, instead of starting from a single crown, are produced along a slender rhizome of a wavy nature. Perhaps one of the prettiest of the hardy evergreen Ferns is the violet-scented *Lastrea fragrans*, native of Japan and also of North America. This charming little plant, seldom more than

may be had in quite small pots, but it is seen at its best when grown on freely until it fills a 6-inch pot, or it may be grown on to make a good specimen in an 8-inch pot. As it becomes better known it will doubtless supersede the older crested Pterisées.—A. H.

Lomaria gibba.—There are several distinct varieties of this useful Fern. That with the pale green, rather short fronds is one of the most popular. The variety *platyptera* is a larger form and makes a fine plant, but, unfortunately, it does not come true from spores, and it is only rarely that a few stray seedlings appear, and these are generally from the variety referred to above. Although I have sown what appeared good spores of *platyptera* a number of times, I have never got seedlings up. Yet, when no plants of the variety have been in the same house, or, I may say, in the nursery, I have on more than one occasion found seedlings referred to above. I lately saw a good variety at Messrs. Low's, Bush Hill Park Nursery. It was of vigorous growth, with rather long fronds, which grow more erect than usual, when, as the young fronds have a distinct reddish tint. It might well be distinguished as *L. gibba tincta*. Varieties are not so popular as formerly, yet when well grown they are very beautiful. They require rather careful treatment, for if once they get a check, fertile fronds appear, and it takes a long time to get them to grow away freely again. The seedlings must be grown on freely from the time they are taken from the seed pots, taking care that they do not suffer from a low temperature, want of pot room or water.—H.

FERN NOTES.

BLECHNUM OCIDENTALE is a very useful Fern, and may be recommended as one of the best for house decoration. In quite a small state it is one of the best for the fancy pots now so much in use, or it may be grown on to make a good plant for a 5-inch pot. It comes freely from spores, and grows in a loamy compost in an intermediate temperature well exposed to the light, the young fronds having a rather pinky hue, changing to a bronzy brown and then to a bright fresh green. *B. australis* is identical with the above, and there are several nearly allied varieties. *B. glandulosum* differs only in being of more erect growth and a darker shade of green. *B. polypodioides* is another slightly different form, having narrower pinnae, which are slightly twisted. *B. latifolium* is a larger species, but I have not found this do so well or prove so useful as the three first referred to. Now that the Pterisées are grown in such immense quantities it becomes necessary to look for something fresh, and any new sorts that can be added are much appreciated, provided they will make good plants quickly. Among the older sorts there are some which, if taken in hand and grown well, may prove very useful. Take *Pteris longifolia* as an example. When three or four plants are grown in the same pot and treated well, it is very useful and quite distinct from the ordinary Pterisées of the serrulata type. The Nephrolepises are coming much into use, especially *N. exaltata*. For hanging baskets this has no rival. Being readily increased from the rhizomes, there is no difficulty in getting stock. In growing the plants on they like plenty of warmth and moisture and all the light that can be obtained. They do not well when suspended from the roof, as it gives the long drooping fronds room for development. After they have made good plants they may be removed to a cooler house, and when hardened off they last a long time. As a compact pot plant, *N. philippinensis* is one of the best, being of free growth and fairly hardy. *Osmunda palustris* is not so well known as it deserves to be. It differs from the North American *O. gracilis* in being evergreen. Seedlings grown on freely make symmetrical plants. They must not be crowded together or they run up tall and thin, but give them plenty of room and they spread out and make well furnished plants. This has a pretty bronze tint in the young fronds. In a young state

it may be grown in heat, but it is almost hardy. Probably the crowns would withstand frost. Spores do not always germinate freely.

A. H.

FLOWER GARDEN.

CALIFORNIAN IRISES.

MR. CARL PURDY'S most instructive letter (p. 453) will, I feel sure, be read with great interest by many others besides myself, who will share with me the hope that, by his help, we may ultimately be able to clear up certain obscurities at present surrounding the nomenclature of some of these Californian Irises; for here, in English gardens at any rate, we have certainly got a little "mixed" on this subject. I received a week or two ago a most interesting letter from Mr. Purdy, and he was so good as also to forward a bloom, which he suggested might throw light upon the Iris alluded to by me in my note accompanying the plate of *Iris douglasiana* (p. 272 of the current volume of THE GARDEN), and which I had thought might perhaps be *Iris baechiana* (Baker's "Iridées," p. 7). The bloom sent was to the eye of a non-botanist apparently identical with those produced by my own plant, though the foliage was considerably larger and seemingly more vigorous than that of my plant. However, I sent it on at once to Mr. Baker, who was kind enough to reply by return of post that "the Iris sent was no form of *I. douglasiana*, but was *I. macrospiphon* (Torrey)." Here, then, we have a dictum of the highest authority, which goes, apparently, to limit the range of *I. douglasiana* as described by Mr. Purdy, and to extend that of *I. macrospiphon*. Here is an extract from Mr. Purdy's letter to me:—

I think I can give you some information regarding the two forms or species that you mention. The original of *I. douglasiana* was collected near San Francisco in 1827 or 1828. It grows in and near some small groups of Redwood (*Sequoia sempervirens*) on the peninsula just north and across the bay from San Francisco, and, I am told, is also found in portions of the city itself. It is readily accessible, being in places only a mile or two from tide water. The plate in THE GARDEN, I think, depicts this form. In actual growth I am not well acquainted with it. I saw a large lot of the flowers last May, and they show considerable variability. . . . The Ukiash is situated 120 miles north of San Francisco, and is in the interior of 50 miles. The same Redwood forest begins some 12 miles west of here, but small scattered groves extend to the town limits. In these scattered groves and among the Redwood sprouts adjacent, the second type *I. douglasiana* is found. I send you a plant (pressed) of this. As this region was in earlier days inhabited by wild Indians and quite inaccessible, it is almost certain that this type of *I. douglasiana* (?) was not among the earliest collections. As compared with the type, it has shorter, heavier stalks, larger, flatter, and broader flowers, yellow, and only veined (never suffused) with purple or reddish purple. The capsule is short, oval, oblong. As to the foliage I cannot be so sure, but my impression is that the San Francisco type has narrower and more erect leaves of a dark green. Both are rosy at base. The Ukiash type is rhizomatous, in broad, loose clumps, never so thick as in some other of our Irises.

By collating the above with Mr. Purdy's communication to THE GARDEN, it would seem that while it is in fact a yellowish or whitish form of *I. macrospiphon* that has been passing for *I. douglasiana* in Mr. Purdy's neighbourhood, yet there must be sufficient difference between this and the yellow, creamy, or white forms which

he mentions to have led to the error, and the two species are even more closely allied than was supposed.

There seems to be little or no doubt that the plant figured in THE GARDEN (p. 272) from flowers grown here is generally accepted as the typical *I. douglasiana*, or that this is identical with the plant found on the peninsula to the north of the bay opposite San Francisco, and with regard to the culture of this variety there is apparently no difficulty whatever. It would be unwise, I think, to divide it in the view of replanting it in the open during late autumn or winter, but it grows with as much vigour in common soil (mine is stiff cold loam) as my Apogon that I possess. The other dwarfed and weaker-growing Iris (alluded to at p. 272), which I also call *I. douglasiana*, I have growing in made soil of a light and sandy description, but I put it there by accident, and I am disposed to think I could do it equally well in other parts of my garden where the soil is not artificially concocted. Another Iris—obtained as *I. macrospiphon*—I grew in an artificial bog. This is also perfectly healthy, and is, I see, at this date (December 5) showing promise of strong shoots in the spring. All these three Irises last mentioned are rosy at the base. The subject is, I think, one of much interest, and if I get blooms, as I am pretty sure to have from No. 2, and as I hope to get from No. 3 of those mentioned, I will endeavour to get Mr. Baker's opinion upon them and communicate the results to THE GARDEN.

J. CARRINGTON LEY.

Ranunculus bilobus.—There are some snow-white flowers of this open. They are as fresh and fair as those of spring, and with this species here it is always so—an autumn bloom, and that from the smallest plants. I grow many of the alpine species, and, speaking of them in regard to their beauty and vigour as well as freeness of blooming, I consider this about the best of the alpine section both for quality of flowers and neatness of habit, even were it but a spring bloomer.—J. Wood, Kirkstall.

Anemone japonica alba var. **Lady Ardinglass.**—On page 453 Mr. Andrew Campbell refers to my note on this Anemone in a previous number of THE GARDEN. I see that he recommends a compost of well-pulverised loam and leaf-mould as best suited to its requirements. Also, I note that anything in the way of fresh manure is objectionable to this variety. It would appear, therefore, that the plants of which I wrote had hardly a fair trial, as the soil in which they stood was a tenacious loam inclining to clay, and the border had been manured not many weeks prior to the planting. The variety was received under the name of Lady Ardinglass, but whether it is correct to title it I cannot say. The growth was certainly not "robust and large," but I am aware that a single season's trial, and especially such a season as the past summer, will often be insufficient for a fair estimate of a plant's characteristics to be formed, and that judgment should necessarily be suspended for a time. Here Japanese Anemones grow very strongly, and in a low and rich border I have plants of Honoring Jobert which generally exceed 5 feet in height. Whether Lady Ardinglass will eventually succeed in like manner it is too early to prophesy, but, even should it do so, I feel that my preference will still rest with the single flower.—S. W. F., South Devon.

While agreeing with all said of the above by Mr. Campbell (page 453), "S. W. F." and others seem to overlook the fact that *Anemone japonica* var. *Lady Ardinglass*, being seed producers, offer the possibility of improving the type, which Honoring Jobert does not. I sowed seed of each early in March of this year, placing it in a warm greenhouse. The seed took from six to fourteen weeks to germinate.

The plants were grown in a cool greenhouse all the summer, but could probably have done better planted out; only I was afraid the frost would have torn down the leaves before they would have produced flowers, and fine plants have expanded their blooms. None of these are inferior to Lady Arildiana, and I consider two are superior. One of these is a single, with flowers measuring over 4 inches in diameter, petals very broad, of good substance and of the purest white. The other has four distinct rows of petals and is equally as large, but the petals are much narrower. I certainly would not despise a double form with the purity and substance of Lady Arildiana, and I think there are few who would refuse it a corner. I quite agree with J. Cornhill that Lord Arildiana is much the better, although the foliage is not so fine as that of Lady Arildiana. The flowers are finer and I believe it will prove the more vigorous. Certainly the seedlings from it are far more vigorous than those of Lady Arildiana. Perhaps others who have been experimenting will give us their results.—T. SCOTT, Ashford.

RETARDING SPANISH IRIS.

"C. C. H." at page 453 asks for some information on the above subject, and proposes delaying planting the bulbs until February next. So far as planting these things in the month named is concerned, I fear little actual experience will be available. A general knowledge, however, of this section of Iris enables me to say that they are far from being the best things to maintain in a sound condition in the dry state, that is when keeping them in the usual places that are at once cool and dry. Some of the varieties are particularly liable to a dry rot while in the dry state, and with some varieties more than others, especially such as are grown abroad and have been suddenly forced to a large size by the aid of quantities of manure. This was so apparent some years ago by a comparison of home-grown and imported roots that it was considered advisable to get the bulbs into the ground as quickly as possible after they were received. The varieties of the English group by their larger size are even more susceptible to this rot when kept too long in a dry state, and large numbers of useless bulbs in both sections have to be discarded long before the season's sales are completed. In deciding to keep the bulbs out of the ground until February, has "C. C. H." fully realised the usually unfit condition of the soil for planting at that time, even should it not be frost-bound. And even supposing the bulbs can be safely kept until February, I am by no means sure that the later flowering would be at all proportionate with the period of retarding. The usual result of a long-delayed rest to many bulbs is seen in a decidedly shorter stature, and if planted in the positions usually prescribed, it is more than likely that, with a hot May and June, they would be hurried prematurely to flowering, and, from an absence of the full complement of roots, the flowers would be very small. I am strongly of opinion that a much more satisfactory result will be secured, provided the bulbs are now perfectly sound, if they are planted at once on a shady north border, the soil of which is fairly well drained. This is just the opposite position to that usually recommended, and it is just possible by the uniform coolness of the position, coupled with the present late date for planting, that a good and useful succession of these beautiful and valuable flowers would be maintained. It is quite easy to understand the desire of "C. C. H." to have a long succession of these Irises, as they are so chaste, particularly the white and yellow kinds; and, I take it, it is for these or similar reasons that the Spanish section is preferred by "C. C. H.;" otherwise, the varieties com-

prising the English group are naturally somewhat later in flowering, and some late flowers of these may be secured also by adopting the suggestion above. The very latest date I ever remember planting bulbs of this Iris was quite early in January. From this planting numbers were never seen again, and flowering plants were very few. It must, however, be stated in justice that this was the clearance of the bulb shop after the season's sale, and therefore not representative of what may be accomplished by a batch specially retarded in a cool, uniform temperature, with a view to securing some special object later on. E. H. JENKINS.

Apera arundinacea is worthy of a note. It seems to be little known, anyhow, not much grown. I have come across a beautifully appropriate common name for it—Pheasant Grass, because of the prevailing hue of that rich golden and sheeny brown peculiar to the male pheasant. The bright mahogany tint is especially prominent, and, in fact, the grass may be said to be a combination of all colors. A tuft seen by daylight on a white table cloth is very rich and tells the whole story of this Curious wonder who may be induced to try it will have cause to be glad at having met with such rich decorative material that can be easily grown outside; preferably, however, in a warmer corner, so as to keep the grass all the longer in character. Stature 1½ feet to 2 feet.—J. WOOD.

Emarginata robusta.—If by any means the early growth of this kind can be retarded to the ground, it will be all the better. It may be hard to do this in the case of very strong plants with widely radiating roots. Shelter from wet with a cover that darkens the crown, without presenting a free access of air, will be helpful in this direction. Lifting the plants in August or September and planting in November and December, has been proved to answer well, but this method implies the greatest care in lifting and planting, as anyone knows who has seen a matured plant out of the ground. There is not the least doubt as to the hardiness of the plant; still, when a specimen is replanted in the teeth of winter it may not have equal resisting power to that of an established specimen, and it would be a kindness to surround it with a light covering of Bracken.—J. WOOD, Woodville, Kirkstall.

Dividing Irises.—Many of the Irises, and especially *Iris germanica*, are such free-rooting subjects, that unless taken up and divided every few years, they impoverish the soil, weak growth and few blooms being the result. In pleasure-ground borders this is not of so much consequence as on borders where the blooms are wanted for cutting. I grow a good quantity in the latter for affording cut bloom during the London season, and find that, in order to keep up a regular free-flowering habit, the roots require lifting and dividing about every three years. A fresh site also is needed, or the soil may be taken out to a depth of 1 foot, being replaced with fresh, rich loamy compost. A good quantity of rotten manure should be mixed with the soil, and as soon as planting is completed, a liberal mulch of leafy refuse given. Shifting and dividing are best carried out in autumn, but, if work is pressing, they may be done at any time during absence of frost. The plants take one season to become established, and generally flower profusely the second season after shifting. Most Irises will thrive fairly well in any situation exposed to the light, and I grow a good many on north borders so as to secure a succession of flower. The lovely Spanish and English varieties do well on a north border, but in my some what light soil they only stand one year. In a neighbouring garden, having a stronger loam, well drained, they remain profitable for several years, and need no transplanting. I grow a good quantity of that loveliest of all Spanish Irises, Canary Bird, the colour of which is rich canary-yellow.—C. C. H.

* * * From experience we find that the best time to move *Iris germanica* is immediately after the

flowering is over. In this way the plants have time to become established, and flower as freely the following year as if they had never been moved. —ED.

LILIES.

In Mr. Camm's interesting paper upon Lilies, a reprint of which appeared on p. 413, he speaks of his inability to flower *Lilium giganteum* at Bournemouth, despite of giving the largest-sized bulbs each year. When I live in a spot where the soil was light and shaly, I experienced the same disappointment with this Lily, but now, in strong and deep loam, I can grow it well and have never had one go off, as was the case formerly. The flower-stems average 8 feet in height and bear up to fifteen flowers, one plant last year perfecting several thousands of seeds. I find that this Lily is partial to well-rotted manure within reach of its roots, and I generally give a mulching of long manure in the winter. One is glad to notice that renewed attention is drawn to the fact, already alluded to by writers in THE GARDEN, of the Madonna Lily thriving best in cottage gardens, though when growing in such environment it often flourishes as conspicuously in a shady position as in the "sunburnt position" advocated in the paper. Indeed, it would seem as if this peerless Lily became so encumbered of such sanctuaries as to cease to be critical on matters of soil and situation, which would assuredly lead to its speedy collapse in more pretentious gardens. In the matter of the disease that disfigures this Lily, my experience has been that, after the stems have reached the leaves, the stem may be attacked and generally rots through before the buds are injured, but in different localities the course of this fell epidemic may well vary in the order of its symptoms. The longiflorum section I have given up in the open, or rather they have given me up, and in that respect I note that South Devon is a fellow-sufferer with Bournemouth. The bulbs that succeeded best, curiously enough, were some of L. Harrisii, which were taken up in Bermuda out of season and brought to England in a biscuit-tin on board a man-of-war. However, after three seasons even the last of these died out. L. auratum is most capricious in its behaviour, but generally, I believe, dies after the first flowering. Mr. Camm, I see, has found the same at Bournemouth. I have bought fine home-grown bulbs and given them every consideration in the way of soil and casing with sand, yet not one of them has lasted a second season; whilst a few cheap imported bulbs, that were not thought worthy of any trouble or attention, and were roughly planted in the ordinary garden soil, have lasted fairly well for four years. That manky soil is not a sine qua non for L. pardalinum has been proved to me by its growing well in a bed of leaf-mould and loam, which became dust-dry during the summer. One of the stems was 6 feet in height and bore about fifty blooms. L. superbum and L. canadense have also—though not so conspicuously healthy as L. pardalinum—grown and flowered fairly satisfactorily, and I found, upon examination a few weeks since, that their bulb had considerably increased in size during the past three years. These Lilies are therefore, I think, worthy of a trial, even if soil and conditions do not assimilate closely to what are generally considered indispensable for their well-being. L. Humboldti, an exceedingly handsome Lily, has grown and blossomed well in loam, with an admixture of a little leaf-mould and sand, and is certainly a little stronger with each succeeding season. South Devon.

S. W. F.

Conveyance of farm, garden and dairy produce.—The Great Western Railway Company has issued to the public, in a concise and handy form, a pamphlet embodying particulars of scales of charges for agricultural, garden and dairy produce carried by passenger and goods trains respectively. The rates by passenger trains have been specially provided for small con-

signments of farm and dairy produce, such as eggs, butter, cream, poultry, game, trout and vegetables. The scales of reduced rates granted for traffic sent by goods train embrace fresh meat, dead poultry, dead rabbits, eggs, butter, fruit and vegetables, and apply to quantities of 1 cwt., 1 ton, 2 tons and 3 ton lots respectively. One important advantage in connection with these rates is that they will cover mixed consignments of any or all of the articles named, so that farmers may combine to send away varying small quantities (exceeding 3 cwt.) amounting in the aggregate to 3 tons, 2 tons, 1 ton, or even 1 cwt., and have the whole of the separate lots charged at the rates applicable to these quantities, the only stipulation being that the traffic must be sent at one time from one station to another station and that the carriage must be paid by the sender or by the consignee. In addition to the reductions thus announced, rates for the same descriptions of traffic have been specially arranged to London, in no case exceeding the scales above referred to; and rates have also been given for consignments of less than 10 cwt., by goods train, in order to supplement the facilities offered by passenger train for small quantities going to the London markets. The company have also revised, and largely reduced the rates for cider and Perry from the producing districts of Devonshire, Somersetshire, Herefordshire and Gloucestershire, and are making numerous and important reductions in the charges for other articles of agricultural traffic, such as Potatoes, Turnips, Parsnips, Carrots, Mangel Wurzel, feeding stuffs and manure.

NOVEMBER IN SOUTH DEVON.

The change of seasons of the past month have been 10° degrees, brightness, and its low temperature. Only 0.84 of an inch of rain has been recorded on 6 days, compared with 7.98 inches on 29 days in the corresponding month of 1895, and an average of 4.20 inches. The small amount of the month's rainfall and the phenomenal register of November, 1895, place the rainfall of the present year, which at the end of October was approximating that of the preceding year, again far behind, the figures being: Rainfall for the first 11 months of the present year, 19.45 inches; for the same period of 1895, 28.72 inches, the average being 31.56 inches, which average we are now over 12 inches below. The mean temperature of the month has been 42° 8' against 50° 3' in November, 1895, and an average of 47.3°. The lowest reading on the grass occurred on the 7th, when the mercury fell to 1° 4', or 7° 2° of frost. On the east side the lowest green reading (28.5°) was registered, while the highest outdoor temperature (80.2°) was reached on the 10th. On 13 days the grass thermometer showed readings of 41° 2' or under. As regards sunshine, the month under notice has been far above the November average of 61 hours 40 minutes, with a record of 93 hours 20 minutes, this being nearly double the 47 hours' sunshine registered in November, 1895. The records of the first 11 months of 1895 and 1896 are both above the average of 1657 hours 50 minutes, 1895 coming first with 1792 hours 5 minutes, and the present year just heading the average by a few hours, with a record of 1674 hours 25 minutes. The past month has been a very quiet one for November, the total horizontal movement of the wind being 6316 miles, against 9027 miles in November, 1895. The greatest daily movement was 502 miles, which was recorded on the 8th, and the greatest hourly velocity between the hours of 10 and 11 a.m. on the same date, when a speed of 30 miles an hour was attained by the wind. The records of the anemometer for the first 11 months of 1895 and 1896 show a wonderful similarity, the total horizontal movement for 1895 being 72,636 miles, and that for 1896 being 72,016 miles. The humidity of the month has been 84 per cent, against 86 per cent. for November, 1895, with a range of 78 per cent. ranging from 55 per cent. with a south-west wind to 91 per cent. in an easterly breeze on the 3rd—showed an average of 43.7

per cent. for the month. In the garden the chief display has been afforded by the Chrysanthemums, which, as November has been dry and bright, have proved unusually attractive. In many cottage gardens pretty pictures were formed by the large bushes of distinct colour, naturally-grown Chrysanthemums. When trained against a wall a very beautiful effect is produced by these plants and one that is all too seldom seen. For bush and wall plants many of the old-fashioned varieties, which have been discarded by most growers on account of their failure to produce the monstrous blooms requisite for the "show-board," are among the most satisfactory. Of white Chrysanthemums, the old Elsie, Mile, Lacroix, and Lady Selborne are still hardy and decorative varieties, although the new Niveum bush fail to be equally valuable in this respect. Amongst yellow Petals of Gold, Janine des Plantes, with its particularly rich golden hue, and Guernsey Nugget, will be found Grange, and W. H. Lincoln as good as any of the newer kinds for outdoor work, the petals being of good substance and the growth sturdy, while the variety is very free-flowering. Crimson and allied shades are very effective for grouping with the lighter colours, and for ornamental qualities it would be hard to fix upon anything superior to a well grown bush of the old-fashioned dark crimson Julie Lagravère. Roi des Princes, Tokio, and Collingford, all crimson; Source d'Or, chestnut-brown; La Nymphe, pink; the beautiful River Fleur, a silvery flesh tint, shading to pink and yellow, and Golden Christine, yellow, merging into orange and chestnut, are all well suited to the embellishment of the garden both in the open beds and against walls should the late autumn prove genial.

Abutilon vexillarium bloomed, though more sparsely, well into November, and the white Antirrhinums were flowering in sheltered nooks throughout the month, while Sweet Alyssum has been in blossom on a bank, and a few stray flowers have opened on hanging curtains of Arabis and Aubrieta on the rockery and the first Primrose has already appeared. Some spots have even yet a little colouring of blossoming things still left, and I noticed at the month's end a little garden where annual Chrysanthemums, Cornflowers, French and Corn Marigolds, Stocks, Eschscholtzias, Nicotiana affinis, and red Linum were in bloom, while here and there a few pale blotted blossoms of Ivy-leaved Pelargoniums and Mesembryanthemums, Pentstemons, and Paris Daisies are still to be found, the first already reported to have left the last flowered in most instances. The giant Christmas Rose (*H. n. foliosa*) has been and still continues in profuse bloom, its chaste flowers having the additional merit of lasting when cut and placed in water, if the stems are well split up, from a fortnight to three weeks. Erigeron mucronatus, after a blooming period of many months, has at length gone to rest. Dark crimson Wallflower has already been gathered in the open from plants that are masses of flower-buds, and a certain amount of Violets may be picked from the garden beds. The Habrothamnus, I notice, is still in flower against a sheltering rock wall, and near by a planted-out specimen of Sparmannia africana is in sparse bloom. The charming Iris stylosa is now in the zenith of its beauty, and has produced its lovely sweet-scented lavender-blue flowers at quantity. Associated with it is the Winter Flag (*Schizostylis coccinea*), the bright crimson of whose flower-spikes is the most vivid touch of colour in the garden. Both the foregoing are invaluable for indoor decoration, and, indeed, last longer in beauty within the house than when left unclipped. Of Rose, a few stragglers appeared at intervals on the wall, and on an old plant in Saffron, which however now bears a handful of rose favours, and on Christmas Day. Solanum jasminoides, after being in flower since June, practically closed its blooming period in November, although there are now (in December) a few puny flower-clusters, on which half a dozen blossoms or so have expanded their petals, but which give no idea of

the wealth of whiteness, swaying with every breeze, that has for months clothed the wall to the eaves. The Lapagerias that I noted in October were still in bloom at the end of November, and the orange fruit of the Passion Flower still gleams on wall and arch. Amid the sombre tints of the waning year, the combination of Jasminum nudiflorum with Cotoneaster microphylla becomes more striking as each attains a richer and more extensive colouring. The Laurustinus is studded with flower-heads, the maroon tint of the unopened buds being accentuated by the few snowy petals that have already expanded. Escallonia macrantha and shrubby Veronicas are now and again to be seen bearing a few blossoms, while on a sunny cliff the red Valerian still glows and the gold of the Goose shives. November is rich in colour effects, which become more subdued as the month advances. At its commencement we have still with us the bright golden symphony of the autumnal sun—the copper-red of the Beeches, the yellow-gold of the Elms, and the more sombre tints of the Oaks. As these vanish, the eye finds other suave contrasts—the grey of great Lavender bushes, bronzed gold of the feathery Tamarisk, and purple brown of the Megasace leaves, while in the woods the Old Man's Beard (*Clematis Vitalba*) festoons tree trunk and undergrowth with billows of smoke-grey down, and the scarlet trail of the berried Bryony garlands the leafless Hazel wands with vermillion.

S. W. F.

GARDEN FLORA.

PLATE 1097.

THE SILVER TRUMPET LILY OF LUZON.

(LILUM PHILIPPENSE.)

(WITH A COLOURED PLATE.)

RUSKIN long ago told us that so far as the corn-yielding plants were typical of the grass of the earth in its sterling use to mankind, so also the Lily typified grass in all its loveliness and beauty. In any case, one of the rarest and certainly one of the most beautiful of all the Oriental Lilies is that represented in the plate to-day. Although *Lilium philippense* was introduced to British and European gardens by Messrs. Veitch and Sons nearly a quarter of a century ago, it has never become plentiful, a fact in part owing no doubt to its requiring special warm greenhouse culture and a careful period of rest in a warm and dry temperature.

The plant is a native of the Philippine Islands, as its specific name implies, and it may be considered as the most southern form of the group typified by the well-known *L. longiflorum* of Japan. I have sometimes wondered if this Lily is really wild or only naturalised in Luzon, just as the South American *Hippeastrum* (*Amaryllis*) *ignescens* is naturalised in Luban and the opposite coast of Borneo.

L. philippense was discovered by the collector Gustave Wallis in July, 1871, in the district of Benquet, in the island of Luzon, at an altitude of 7000 feet above sea-level. It was said to grow in poor soil amongst grass and stones on steep banks, and in a rather shaded position. The flower figured is only 7 inches or 8 inches in length, but the blooms are said to each attain a length of 10 inches to 12 inches in their native home and to be very sweetly perfumed. The long and slender leafage of almost grass-like tenacity distinguishes it from all its allies, although there is some resemblance in growth between *L. philippense* and *L. neil-*

* DRAWN FOR THE GARDEN BY H. G. MEIN IN MR. WARRE'S GARDEN, TATTON-BAKE. LITHOGRAPHED AND PRINTED BY J. L. GELDART, DRAWER TO GUILHARME SEVEREYNS.

DEC 19 1970



LILIUM CANDIDUM L., 87

gherrense. The long and slender flowers of the two also resemble each other in form, but while those of *L. philippinense* are pure white, those of *L. neilgherrense* are of a soft old ivory or yellowish hue. The other Lilies of the Eulirion group to which *L. philippinense* belongs are *L. longiflorum* and all its forms, as reared in Japanese gardens, also *L. Wallichianum*, which is wild in Kumaon, Nepal and other temperate regions of the Central Himalayas, at altitudes of from 3000 feet to 4000 feet. *L. longiflorum* is wild in both China and Japan, having been introduced to Europe about 1810, and varies in its native habitats as well as under cultivation. Besides the type, the most distinct forms are *L. longiflorum* var. *eximium*, *L. l. Takesima*, and the now widely popular *L. l. Harrisii*, so

fully would be most welcome. All the Lilies of this group or section, including *L. longiflorum* itself, are not quite hardy, even here in Ireland, where some half-hardy bulbs do well, and the exuberant behaviour of *L. Harrisii* as grown under sub-tropical conditions in Bermuda seems to show that a warmer soil and more genial climate than our own are necessary for its welfare. F. W. B.

THE WEEK'S WORK.

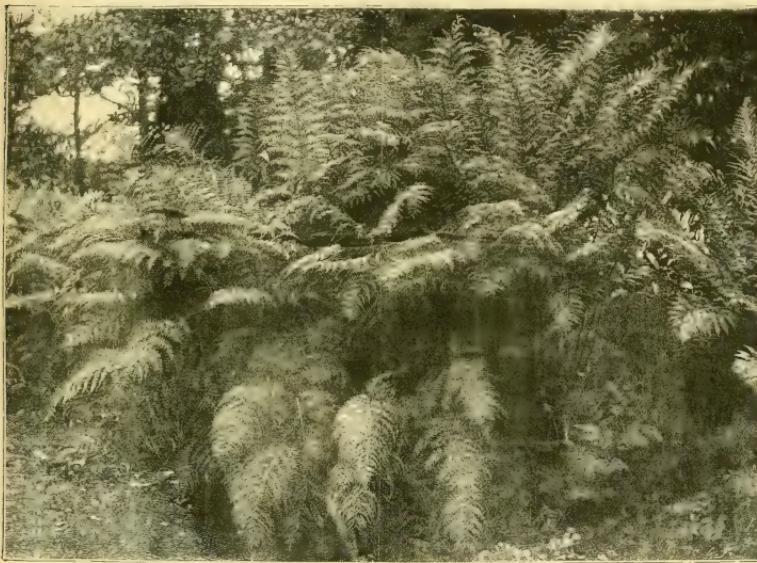
FRUIT HOUSES.

PINES.—At this season of the year there is not generally much to be done in this department, as most growers wait till the turn of the year before

vigorously. If there is no pit to plunge them in by themselves, they should occupy the warmest end of the fruiting house, adding sufficient fresh fermenting material to maintain the requisite temperature for bottom-heat. These plants must have careful attention, for as a greater amount of moisture will be necessary at the roots to induce a healthy swelling of the fruit stems, too much moisture must be guarded against, particularly in cold weather, as this condenses on the glass and falls again in the shape of drip, which is very injurious if it should touch the hearts of the plants. At this stage it will not do to hurry the plants too much. A steady temperature of from 65° to 70° should be maintained, with a rise of 10° or so on bright sunny days. A fairly active growth will then be made. Those plants which do not show any signs of fruiting should be kept on the dry side for the present, as it is not advisable to start more than are required, as the others will push up more vigorously after the turn of the day.

SELECTION HORSE.—During the dull, cold weather at this period of the year, when nothing else can be done, it is not advisable to excite growth more than can be avoided, and Pine plants that are kept comparatively dry will put up with a lower temperature than those whose roots are frequently supplied with moisture, no more water should be given than will keep them in a healthy condition; at the same time it will not do to check them too much, or in all probability they will start into fruit before they are required. So long as the soil is kept sufficiently moist to prevent a check, this will be sufficient till the turn of the day. Suckers that are well rooted will need careful watching, particularly if in pits where the bottom heat is supplied by hot-water pipes; at this time of the year they are apt to get overheated, therefore the roots of the plants become too dry. If this happens, such plants often show fruit after being potted in spring instead of continuing to grow. This is one of the drawbacks of hot water for bottom heat, particularly when the houses are entrusted to careless persons who do not take an interest in their work. Where it has not been possible up to for potting, this should be cut and stacked at once in a warm shed, that the grassy portion may have time to rot, and the soil become somewhat dry previous to being used, as it is impossible to do the work satisfactorily when the compost used is too wet. The present season has been a good one for collecting Oak and Chestnut leaves. If these were gob together when dry they will hold very well as a ploughing material later on when it becomes necessary to renew the bottom heat. They must, however, be kept dry and not allowed to ferment too much.

GENERAL HINTS.—Amongst the many duties a gardener has to perform none is more necessary than keeping up a stock of healthy young fruit trees, for unless this be done blanks cannot always be readily filled. In most gardens of any pretensions there is usually a spare piece of ground that could be devoted to what might be termed a nursery. It has for a long time been the custom for gardeners to procure fruit trees from nurseries



Foreground effect of mass of Lady Ferns. (See p. 487.)

largely cultivated in Bermuda for exportation and for forcing in our greenhouses here in England. The other allied species is *L. neilgherrense* from the Indian peninsula, where it is found on the temperate slopes of the Purvies and on the Neilgherry Mountains.

Broadly speaking, *L. philippinense* is a tropical form of *L. longiflorum*, differing mainly in its taller and more graceful stems, grass-like leaves, and in its solitary and more drooping flowers. It is curious to find it resembling the Japanese *L. longiflorum* far more closely than does either of the Indian forms known as *L. Wallichianum* and *L. neilgherrense*. The grace and beauty of *L. philippinense* are well shown in the illustration, and it makes one wish that the plant itself were more often seen. That it is difficult of permanent cultivation is a drawback that we hope may soon be overcome, and the experience of those who may have already grown it success-

starting the plants. It is, however, well to look over the stock while the weather is mild and put it in order. If previous instructions have been carried out, plants in fruit will have been got together at the warmest end of the house or placed in a small house by themselves where they can receive due attention. Others that have been rested ought to be carefully examined, and those most forward and likely to bear fruit the quickest should be selected and placed by themselves. Such can easily be detected, as they are usually thicker in the neck, the centre leaves being broader and less elongated, showing that growth has been arrested. Where this is observed it is a sure sign that the fruit is forming in the heart of the plant, even though it cannot be perceived. If a place for a few of these can be found in a pit where they can be kept by themselves, and where a bottom-heat of from 85° to 90° can be maintained, they should be plunged therein, and have a soaking of water to thoroughly moisten the soil, which will cause the flower-stems to push more

this to procure turf cut and stacked at once in a warm shed, that the grassy portion may have time to rot, and the soil become somewhat dry previous to being used, as it is impossible to do the work satisfactorily when the compost used is too wet. The present season has been a good one for collecting Oak and Chestnut leaves. If these were gob together when dry they will hold very well as a ploughing material later on when it becomes necessary to renew the bottom heat. They must, however, be kept dry and not allowed to ferment too much.

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either as maidens or trained in any of the approved forms, so that at the present day but few of the young men in gardens have any experience in either budding or grafting, this being left to experts who make a specialty of such work. No doubt this is good in its way, but one is not always able to procure just what he wants or at the time he requires it, so that if a portion of such ground were set aside as a kind of reserve ground, even if trees were not propagated therein, young plants could be procured and planted at a sufficient distance apart so that they could be lifted at any time when they might be required to fill up vacant places. When trees of any size have to be procured from a nursery root and branches often get so broken about in transit, that they are disfigured. It is, therefore, always best to purchase small ones and plant them at a sufficient distance apart that they can be readily lifted without injury to either root or branch, and transferred to their permanent quarters. Large trees procured from a nursery are seldom of any value; they have become stunted in growth, so that they fail to make a start, whereas, if procured when small and grown on they will not fail to give satisfaction. If it be thought advisable to graft or bud a few of any particular variety, stocks of various kinds should be procured and planted in readiness for so doing. It is always advisable that these should have been established one season before being worked, that root action may be active, for though it is possible that the scions may take if worked in spring on those planted in the autumn, they would not make such a free growth as those having more root action. Where such work is contemplated a proper selection of stocks should be made and planted at once ready for another year. The scions may now be taken, choosing some of the cleanest and best ripened shoots for that purpose. A trench should be taken out 6 inches or 8 inches deep, that they may be buried for the greater part of their length; in this way they will keep fresh till required for use. A north border is a good place for them; if inserted thinly in such a position they will take harm, even if the winter is severe. Cob and Filbert nuts may be propagated by layers. In nurseries where this is practised old stools are cut down in order that they may send up strong shoots; these are layered during the winter, the points of the growth being turned up so as to form a straight stem. In most nut plantations there is usually a sufficient number of suckers sent up from the roots to keep up a stock. These should be taken up carefully and planted in rows in the nursery ground about 2 feet apart each way. Do not attempt to cut them back, but tie them up to a straight stick to keep them in a perpendicular position; by next winter they will have become well established, and may then be shortened to the desired height, a stem of 3 feet in most instances being sufficient, a little more or less according to the fancy of the cultivator. All buds should be picked out or rubbed off except those at the top of the shoot, which will push in spring and form the future head of the bush. If these are shortened the following winter to within two or three buds on each, there will be sufficient growth the succeeding year to form a handsome head. The smaller growths from these should be tied down to a horizontal stem at an even distance from each other; by so doing, what is termed a goblet-shaped head will be formed, which is the most serviceable of all kinds. The seed of these may also be sown at the present time, but as seedlings vary so in character, either suckers or layers are preferable.

CHESTNUTS.—In the most favoured parts of England these will ripen their fruit fairly well, but in colder districts not of a little value. Here some of the trees have attained a great size, some of them having clean stems for many years, 60 feet high, with a girth of about 15 feet at 5 feet from the ground. These ripen their fruit in all favourable seasons. I find the fruit very useful for dessert, and it would well repay anyone to plant and cultivate a few trees for this purpose alone.

H. C. PRINSEY.

KITCHEN GARDEN.

FRENCH BEANS.—The crops on the various successive batches of French Beans sown during the last two months of the year will necessarily be light, as the plants have to struggle against the enervating influence of artificial heat combined with a great lack of daylight and scarcely any sunshine. The small pot system is by far the best for present sowings, as there is a better chance with these of keeping up a healthy growth from the first, and it is easy to give the plants a slightly increased root run as the pots become full of roots by standing them on an inch or two of soil and encouraging the roots through to this, by half plunging them in small hillocks, the latter being the better way where there is head room to allow of it, as the soil in hillocks has not the same tendency to turn sour as it has when laid flat. I have before expressed an aversion to the earth-ing-up system which is sometimes practised, for the tendency of the roots is to go downwards and not to come to the surface to feed, as Cucumbers do. Tomatoes will do, leave no room for top dressing when setting, preferring to have the bulk of the soil below the head bed instead of above it. As the seed does not always germinate well, it is advisable to sow in each pot at least double the number that will eventually be needed and thin down when the healthiest can be selected. Those which come up with one or both of the cotyledons deformed cannot be expected to make healthy or fruitful plants. From four to six plants may be allowed to a 7-inch pot if they can be allowed a little auxiliary help as recommended above when they need it. Sweet fibrous loam, with the addition of one-fourth of decayed horse droppings, suits the plants better than any other mixture I have tried. Sow in soil moist enough to promote germination without needing any help from the water-pot until the plants are well up. As an aid to germination the pots may be stood on a plank or on slates placed on the hot-water pipes, but must be removed to a position close to the glass directly the young plants straighten themselves. A night temperature of from 60° to 65°, with 10° or 15° rise by day, should be given, though it is better to allow a fall to 5° lower in very sharp weather than to get a too fierce heat in the pines at any time. The twigs used as supports should be put in position before the pots become very full of roots and crowding should be avoided; each pot should have room to stand well clear of its neighbour.

POTATOES.—Although one or two sharp frosts have been experienced the weather has, on the whole, been extremely favourable for sowing, Cauliflowers, &c., that are being wintered in frames. Lettuces and Endive have grown considerably since they were stored, and the hearts of the most forward plants are well blanched and tender. This is as it should be, but it entails care and watchfulness in keeping both frost and wet from the hearts. The latter is especially dangerous, as once it is allowed to get in there is no chance of the plants becoming dry again, and early decay will be certain. Though ample ventilation must be given on every favourable opportunity, it is only wise to draw the lights off the frames in the finest weather, as a slight shower coming on the plants will do mischief that may not show itself for a time, but which is none the less certain on that account. The better way is to well prop up the lights back and front, and where the lights are not in the best of condition, a considerable fall should be given from back to front. The heavy rain and general dullness which prevailed during September and October kept the autumn-sown Cauliflower in a backward condition while they occupied the seed bed, but they have since come on well, and are quite as big as I like to see them at this time of the year. Full ventilation should be afforded to such plants, and in their case there is no need to fear slight wetting when the weather is mild. I like to give the plants an occasional dusting of dry vermiculite, as this appears to ward off attacks from mildew; and though the latter is not likely to appear on the plants yet, unless they have been

treated injudiciously in the matter of ventilation, a preventive that rather helps than hinders growth is never out of place.

FRAMES AND PITS.—The various structures, which will soon be in request for forcing many things on the hotbed system, and which may have been in use for extending the season of tender things into the early winter, should be emptied of soil and old hotbed material as they are set free. The walls of the pits should be brushed down, and, after they have had time to become dry, a good coating of hot limeash should be given them; this will kill all Moss growth and many insects that may be lurking in the crevices. The lights should be washed clean, so that they will admit full light to the new crops. The soil, if required again for a similar purpose, should be heaped in a dry corner and have a little litter thrown over it to prevent the possibility of its being frozen hard when wanted, and it is also wise to prepare any additional soil which may be wanted and treat it in the same way, so that it may be ready to hand instead of waiting until the time comes for using it and then finding it in bad condition.

POTATOES.—For very early use, a few of the for-wardest of the seed Potatoes, which I recently recommended to be bought for moderate heat, may now be potted up into 10-inch pots, using, where possible, light sandy loam which has been sieved for a twelvemonth and in which the fibre is in an advanced state of decay; this will suit the crop better than any mixture of soils, but if the loam is not light, a little leaf-mould will improve it. Half fill the pots with such soil, then set in the Potato and fill up with soil to within 3 inches of the rim, this space being required for a little extra soil to be placed round the stems later on. Put the pots near the glass in a house or pit with a minimum temperature of 50°; this will be quite warm enough for satisfactory growth.

SUNDRIES.—It will now be time to cover a second batch of Rhubarb. This will come in for pulling before the first batch is spent, but it is always easy to check the crop slightly by giving a little air to the boxes on fine days, and this improves the colour also. My method of forcing may be found in calendar for November 14 and need not be repeated here. I should like to add however, that I have found it an excellent plan to place a heap of dry Bracken over each rhubarb stool that is to be forced during the season, and on the earliest lot which comes on without actual forcing, and this certainly helps them to start freely when required. Weekly batches of Seakale and Chicory should be put into the forcing-quarters. One word of caution is necessary here, which is, never to use the same soil for successive lots of Seakale; by so doing we court failure. I do not say that it absolutely refuses to grow under such conditions, but I have proved that the growth is not nearly so good. It is more convenient to cover the roots of the quarters containing such things as Jerusalem and Chinese Artichokes, Parsnips, Salsify, Scorzonera, Horse Radish, &c., with litter sufficient to prevent the ground from becoming hard frozen, it will be advisable to lift and store sufficient of such roots to provide for a supply in hard frosty weather, and the same thing may be done with Celery, which may be kept in good condition for some weeks in the store-room if not in a frozen state when lifted.

J. C. TALLACK.

Lycoris aurea.—We have seen a good deal of this within the last two years at Kew, at some of the R.H.S. meetings, and as dry bulbs at the London auction rooms, but, generally speaking, its cultivation does not appear to be attended with any great measure of success. It is rarely, if ever, so Hardy, as planted in a narrow border close to a south wall, as is often done with the *Bella donna* Lily, it will pass the winter, but under such conditions flowers may be sought for in vain. Sometimes the imported bulbs have the flowers already in embryo, in which case heat and moisture are all that are necessary for the de-

velopment of its heads of charming blossoms, so well shown in coloured plate in *THE GARDEN*, January 19 last year. The climatic conditions under which it exists in a native state are somewhat singular and difficult of reproduction in this country. A fair amount of success has resulted from keeping the plants after flowering (which takes place in the autumn) in a good light position in an intermediate house, placing them in the summer on a warm greenhouse shelf, removing them to a warmer structure as autumn sets in. Though introduced as long ago as 1777, this *Lycoris* never seems to have been generally cultivated, and it is only within the last few years that bulbs of it could be obtained in quantity. A second species, *Lycoris radiata*, is, under the name of *Nerine japonica*, sometimes sold in great numbers at the London auction rooms during the winter months.—H. P.

KITCHEN GARDEN.

YELLOW TOMATOES.

The yellow varieties cannot be said to be so largely grown or to find favour like the red kinds, and for this one may give various explanations. The principal reason doubtless is that they do not sell, but in this note I am not concerned as to their market value. As Tomatoes are largely eaten in a raw state, I fail to see what objection there can be to the colour if the quality is good. In a few cases the quality is superior to that of the red kinds. To show how little the yellow Tomatoes are grown, only a few days ago I heard some remarks from visitors at a large show who were surprised to see yellow fruits. Some say they fail to crop like the red kinds. Such is not my experience, as I find no fault as regards cropping, but I do think they are worse keepers than the red-skinned varieties, as they crack sooner in a moist place or with much cold. I only advise their culture for summer supplies. For salads I think them of great value, as the flavour of a few is so distinct and so delicious. There is now a fair number of yellow kinds, indeed an ample selection for everyone. Another point worth noting is the superior habit the newer types of this section have. Golden Nugget is a small fruit, but superior in flavour to many of the red kinds. There is another point not always noticed with several of the yellow varieties, and that is earliness. Golden Nugget is one of the earliest, and is therefore valuable for early forcing; I do not know if any readers have ever noticed the precocity of the older Greengage, one of the first of the yellow kinds. This is a good flavoured fruit and very early. Another specially fine yellow fruit is Sunbeam. I was so much pleased with its good qualities grown on a south wall this summer, that I have made a note to give it more space both inside and out next year. It is not a round fruit exactly, but quite smooth, and is borne in clusters. It is of a size much liked for salad and of a delicious flavour. Sunbeam is a very early kind, and is certainly an ideal yellow Tomato. If size is required, there are plenty to select from. Golden Perfection is a large, very handsome variety and a good indoor kind. Golden Queen is equally good. It is a dwarf grower than Golden Perfection, good for pot culture and most productive. Blenheim Orange may be classed among the best of the large fruited of the yellow kinds. There are some half dozen other yellow kinds, but I consider them inferior to the ones named above. Only last week a very pretty fruit of a new kind was

noticed in these pages. In these days when so much variety is expected I think the yellow Tomatoes worth extended culture.

G. W.

Broccoli Snow's Winter White.—Sown during the first week in May, my batch of several hundred is just in condition for transferring to frames as a safeguard against frost. If the winter should prove as mild as last season, the plants would turn in just as well in the open without any fear of injury, their ample leafage curling nicely over the heads. To find protection for a quantity of plants is no easy matter, and it is an excellent plan to transfer the plants to a sheltered border and lay them in, taking them up with a fair sized ball, afterwards protecting in some way.—A. Y. W.

Wintering Endive.—Mr. Wythes' notes on wintering Endive are opportune. I can quite bear out what he says as to coddling being about the worst enemy the plants have. All kinds of salading being in demand, I have several thousands of Endive at the present time packed away in low frames, and also makeshift places such as Mr. Wythes describes. Fresh air is what the plants like, also thorough protection in case of frost. My plants, having been lifted during a dry time, were all well watered afterwards so as to keep the soil moist and the foliage from flagging. Flagging must be guarded against or the plants will fail. The Improved Round Batavian I can also recommend as being the better variety to grow. When well blanched it is really excellent. The Moss Curled is all very well for garnishing, but otherwise I would not care to grow it.—Y. W. C.

A good November Broccoli.—One can appreciate a nice compact Broccoli at this season more than at any other, as with an absence of Peas and Beans the Cauliflowers or Broccoli, though small, is a delicious vegetable. The Broccoli in question is Veitch's Self-protecting Autumn; it is, I think, one of the most useful autumn Broccoli, as the heads being so well protected a few degrees of frost do not injure them, like it better than the Autumn Giant Cauliflower, at a time this is too large, whence the Broccoli is smaller and not so readily injured by frost. There is no difficulty in having this variety from November to February if two or three sowings are made. I usually make two, one to succeed the Cauliflowers and another to give a later supply. I sow later than is often advised to prevent coarseness. It is a splendid variety to lift and store for midwinter.—G. WYNES.

A good Celery.—Celery in many gardens suffered at the start from heat and drought, but where ample moisture was given there will be a good return. I was surprised to see how the early frost affected the plants this season, doubtless owing to the soft growth and little sunshine during October. With much rain many would think the plants would get all they want. Not so, as the growth would have absorbed the food given and more be required in the shape of liquid or a good fertiliser. A very fine Celery for autumn supplies I find is Veitch's Super White, one of the best as regards flavour. With me it finds more favour yearly, as there is no running or hollow stalks. White varieties are more inclined to go wrong than the red kinds, but the above is free of these evils, and is a good selection of white Celery as I have met with. You had a note by Mr. Iggersden in January, 1894, as to its value, but I find it so good in quality that I wish to mention it.—W. S. M.

Good winter Lettuce.—My best winter Lettuces are true stocks of All the Year Round and Hicks' Hardy White. Planted out in good soil in low and light frames these succeed excellently. I have now about three dozen frames full, and will carry me on for some time. When the frames can be spared early in the autumn it is much the better plan to transplant direct into these from the seed bed, the lights, of course, remaining off until the approach of frost. Want of moisture and fresh air is a frequent cause of

failure with winter Lettuce. They require constant attention, the lights being tilted or drawn off as required according to the weather. Close attention is also necessary in covering effectively from frost. No frost should remain them, but, on the other hand, they must not be addled. Many Lettuces are spoiled when lifted merely fully grown and planted in frames from want of moisture. Directly after planting they should receive a thorough watering, or the plants may flag if the weather should be at all sunny. With moisture in the soil, decaying foliage kept off, and the soil stirred occasionally, there should not be any difficulty in providing a supply of plump-hearted Lettuce.—A. YOUNG.

Potting up Globe Artichokes plants.—My notes on potting up Globe Artichokes concern those who experience severe losses with these plants during the winter. I am a sufferer in this respect, and have tried various schemes to avert disaster. My experience is, that no matter how carefully protected in certain districts, one loses the plants badly, and, of course, crop also. I tried binding up the tops, and also most other modes of protecting, such as dry leaves, fine ashes, long litter, Bracken, and banking up with soil, but to little purpose. For some seasons I have potted up a fair number of plants, taking up the small side growths and placing in 4½-inch pots singly and plunging in ashes in a cold frame. In this way I can keep up a good stock, and even should those plants in the open pull through, the potted plants give a valuable succession. There is no reliance on seed, hence the necessity of keeping up a good stock of plants.—G. WYNES.

Forcing Asparagus.—In this garden Asparagus is largely grown for forcing, as a supply has to be maintained from early in November onwards. I do not share "Grower's" views as to forcing being a costly proceeding when roots are specially grown for the purpose. For later supplies and for preceding that of outdoor growth, an excellent method is to fill the deep alleys with fermenting material and cover the beds with glazed lights. But for this season of the year and for a month after Christmas, "Grower's" plan is much more costly. All that is necessary is sufficient ground where a batch of young one-year-old plants may be planted annually. In three years they will be strong enough for lifting for forcing. It will be readily seen that three batches are needed. Given deeply worked and well-manured sandy soil, no more skill is needed than for a patch of Potatoes beyond normal top-dressing with either natural or artificial manures, so as to build up strong crowns. It is an easy matter at this season to fill a three-light pit with fermenting material, a couple of pipes along the front maintaining the desired temperature.—A. Y.

PEAS.

The notes appearing in *THE GARDEN* on the above are most interesting to all growers of vegetables, as one can see how certain varieties behave, and no young beginner need fear failures in selection of varieties for next season's supply if he notes the district and a few of the most prominent varieties. I am agreeably surprised to see such a general consensus of opinion as to the merits of certain varieties in districts wide apart. With regard to early varieties, how few cultivators there are but have a good word for Chelsea Gem. Owing to the introduction of so many new kinds, the variety named will have a hard fight to remain first favourite after a season or two. It lacks size, and in these days many owners of gardens are not satisfied with small Peas, the introductions of late being much superior as regards size with earliness combined, a great gain to the grower. Daisy is nearly equal in earliness to the one named, and this in connection with its size of pod, cropping, height and flavour qualities makes it a rival of the right sort and a great gain where quantity is concerned. Another variety which possesses the same good qualities is Laxton's Grampus, a distinct early Marrow. I am pleased to

see this variety holding such a high place in the selections from different growers. The late Mr. Anthony Waterer considered Exonian the best early Pea and condemned Gradius. I asked him to forward his Gradius to place alongside of the true, and it was not Gradius at all. Only last week I saw Early Sunrise named as one of the newer varieties. This must be an error, as it is in my opinion quite out of date. I must give Exonian its word of praise, and cannot do better than class it as an improved William I., a grand variety for early work and one of the best flavoured varieties grown. Many may object to my preference for large Peas. On the other hand, I like what one may term successive croppers, not those which are over after one or two gatherings. Such kinds as Excelsior, May Queen, Bountiful, Empress of India, Early Giant and several others come under the heading of earliness with size and quality combined. I do not think Mr. Dean (p. 457) need ask for tire, as though it is impossible for anyone to give all the new kinds a trial, the grower is fortunate in being able to see the reports of others and thus get some idea of the best. It mostly happens those of inferior quality soon go out of cultivation. If we could have another report on the Pea ten years hence, many of the kinds I have noted as specially good will by then have made a name, as they have an excellent constitution which some kinds lack. W. M.

Pea Excelsior. — I grew this variety this year for the first time, and am pleased with its behaviour in anything but a good season owing to heat and drought. I think it will prove a valuable variety for forcing and early cropping in the open. It may be classed as a distinct Marrow or a semi-varietal type. It will, I think, in time prove a great acquisition. It requires no stakes, and may be planted closely, though, in my opinion, no matter how dwarf the variety if it bears heavy pods, it well repays a few short stakes to keep the pods free of the soil. Excelsior is from 15 inches to 18 inches in height, though the first lot sown for early crop in the open did not exceed 12 inches, but drought may have been answerable in some degree. The haulm is clothed to the scil, pods large, containing eight or nine peas of large size and delicious flavour — a true Marrow. This, with earliness combined, makes it of more value. For forcing it is a grand acquisition. I have never seen its equal given pot or frame culture. I saw it also at Chiswick this year, it being one of the few kinds that received favourable notice. It may be termed a first early, as it sown in February it may be gathered in May — G. WYTHES.

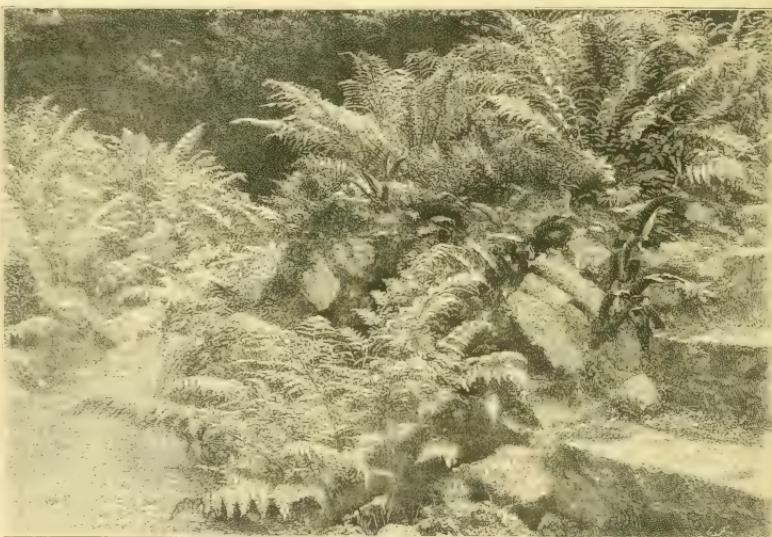
Pea Duke of Albany. — This variety is probably more largely grown than any other kind. I am aware the last season or two it has declined in favour with the advent of so many good Peas. From a private grower's point of view the Duke lacks several good qualities, and I have often wondered why it is so largely grown. Size, I am aware, is its chief merit, as it lacks the true Marrow flavour of older kinds. As an exhi-

bition variety it holds a high position, and this, I think, is the secret of its popularity. But that does not imply it is first-rate for other purposes. I am aware size is a cardinal point, but what about the crop, as the Duke of Albany in my opinion is inferior to Strategem in quality and crop, and Autocrat is much superior in every way? My objection to the Duke of Albany is its short season, as after two or three good gatherings it is over. Another fault is that the Peas soon get old, whereas some of the newer varieties and those I have named are what may be termed succession croppers. They do not yield all at once and are covered with successional pods all along the haulm. As an exhibition Pea doubtless it will hold its own. —GROWER.

Savoy in winter. — I think the Savoy in mid-winter and well into February, or even later, of far greater value than in the autumn, when the produce is strong and there is a good selection of other vegetables of superior quality. For some

of those that looked sound when stored now unmistakably diseased. I feel sure that many of the late sorts will soon be replaced by those that mature earlier, for in the majority of seasons it is the late ones that get caught by disease. Then there is the great advantage of getting the land cleared early for other crops. Early sorts are just as good for cooking in the spring as the late ones. During the present year I had some of the White Beauty of Hebron sent to me for trial when the same variety was nearly fit for digging in the open ground, and better Potatoes could not have been desired. —J. G., Gosport.

July sown Carrots. — At p. 417 J. Crook refers to the value of this crop, and I find them appreciated in the kitchen for use in soups and fancy meat dishes. To secure good results from sowings made at this late date, a good situation and a well-prepared soil, as mentioned by Mr. Crook, are necessary. Mr. Crook sows between the rows of young Strawberry plants, but then



A hardy fernery at Broomfield, Caterham. (See p. 47.)

years in these pages I have advocated sowing the Savoy much later. I would, in fact, treat it like a Broccoli. Sow in May or even June for late material, as by so doing one gets much better material as far as quality is concerned, and the produce at a season it is of greater value. One often sees the plants, if sown early, starving in the seed-bed. If sown at the season named thinly, such plants grow away freely when planted and give much better results with less labour, as starved seedlings require much attention to get them into condition. As regards their value at the season named, few will disagree, as everyone knows how badly the early plants get infested with caterpillars and split. If sown later this is avoided, the plants wintering well and not making the huge heads some people like. —B. M.

Windsor Castle Potato. — This splendid variety has fully sustained the high character given it in former years. In looking over my stock of seed, there is barely one per cent. that has to be removed, while in the later sorts I find quantities

his climate is warmer and better generally than that with which many of us have to deal. If the young Carrots do not come on so fast as desirable owing to wet, sunless weather, it is a good plan to place a spare frame over the bed, the lights being drawn off when the weather is fine and sunny. Mr. Crook mentions Scarlet Model as being a good variety for the purpose, so also is Market Favourite, a stump-rooted Carrot I lately strongly recommended for growing on shallow soils. —J. CRAWFORD.

Pea Strategem. — Old Pea growers will be pleased to see that good old variety Strategem mentioned by so many in the recent reports on the best Peas. It is one of those sterling sorts which have not been ousted by fresh novelties. Where spare pits are at command gardeners will find Strategem most valuable for sowing in November, allowing growth to come on steadily for producing a supply at the end of May, when the earlier forced pot or hot-bed lots have been gathered, and before the early border crop

are ready. I have grown it for many years and always found it reliable, the haulm not drawing up like that of some Marrow varieties when grown under glass. Of course cold will not do plenty of air being necessary except during hard frosts. My practice has been to take out a trench in the pit, and replace the old soil with good sound loam, first laying in the bottom a good coating of well-rotted farmyard manure, placing a little fine sand such as potting shed refuse about the seed after sowing. The colour of Stratagem, combined with its excellent flavour, is sure to be appreciated in the dining-room, and the pods hang in good condition longer than those of most other varieties. I allow 3 feet apart for the rows, promoting growth with the short tops that are common in the ordinary Peas. Gardeners should be particular in getting the seed of this variety from a reliable firm, as although now an old Pea, there is still a spurious variety, the colour being whitish instead of dark green. The pods of the latter strain are not so large, neither is the flavour so good.—J. CRAWFORD.

EARLY CAULIFLOWERS.

I QUITE agree with Mr. Wythes (p. 416) that many people spoil their chance of seeing a satisfactory crop of early Cauliflowers by sowing the seed too early; also in prickling the plants out into loose soil in a frame. The result of such treatment is that the plants grow much too large by the time it is safe to transfer them to the open, and, besides, the soil will not adhere to the roots whilst being lifted. Under such treatment no one can wonder that the plants turn out worthless, buttoning prematurely. I am also in favour of autumn sowing for the earliest crop, and it certainly has its advantages over sowing in January. When the sowing is left over to this latter season the utmost care is needed, and it is with such plants that I now intend to deal. In large establishments early Cauliflowers are a very important crop. I grew several hundreds last year for the earliest crop, and they turned out remarkably well. Perhaps failures may occur through subjecting the seedlings to too much heat; also in not prickling and potting the plants of early enough. The seeds require to be very thinly sown in boxes. If these are scattered about three-quarters of an inch apart, quite a large quantity of plants may be raised in an ordinary cutting-box. If more are required, it is easy enough to plant two or three boxes. The boxes should be placed in a temperature of 50° (not more) and the soil kept fairly moist. Directly the seedlings commence to have the cotyledons turned to a shelf near the glass, where the seedlings may receive the benefit of all the light possible. As soon as the first rough leaf shows signs of pushing forth, prick the seedlings out into other boxes. For a few days keep them away from the roof on the side stage, where the little plants will quickly pick up, when remove them at once to the shelf. Do not allow cold draughts to blow on the plants, as, being young and tender, mildew would very quickly take hold of them. Under such treatment they will become sturdy little plants. As soon as the weather is mild enough transfer the boxes to a frame, elevating them on pots or bricks so as to bring them up close to the light, when, by careful watering and ventilation, also taking care to mat up at night, the plants will be quite healthy. Too much care cannot be taken in watering even such a simple plant as an early-raised Cauliflower. Deluging the soil with cold water will quickly have an effect upon the stems by causing these to turn black. Five-inch pots should be used for potting off, as smaller ones cramp the roots and may cause buttoning. There should be three parts loam to one each of leaf soil and pulverised horse manure, the latter rubbed through a sieve. A sprinkling of wood ashes is also beneficial. Pot fairly firm, leaving the plants in the soil up to the seed leaves. If the plants are lifted out with a ball and potte^s so that this is not disturbed, the plants will not drop much. Keep the lights fairly close and shade for a few

days. Each plant should be picked out and watered when necessary. I once saw a lot of plants ruined by sprinkling over daily. It is astonishing how quickly mildew will affect Cauliflower at this season if care is not taken in the ventilation of the frames. By taking care for two or three weeks, the plants may eventually be drawn off all fine days. If a batch is required as early as possible, either prepare a roomy frame, or what is termed a skeleton frame is an excellent makeshift, the sides being either of turf or boards, but it must be in a warm part of the garden. The soil must be deep and well manured. Here set out the plants 16 inches apart, planting and also watering carefully. To forward the plants, place on the lights, ventilating so that a circulation of air is continually playing about the plants. Eventually the lights will be only needed at night, and after a time when the weather is genial and warm, remove them altogether. The soil at no time must be allowed to become dry, or the plants will surely suffer. The next set of plants should be set in a border, and a good succession is had by a further sowing on a western aspect. The soil in either case must be deeply worked, well manured, and in winter gardeners make a friable state. Plant in drills drawn as for Potato planting, these being 2 feet apart, the plants 16 inches apart in the row. This distance will grow Cauliflowers quite large enough. Watering must receive due attention from time to time. Essentially this is necessary when the plants are first set out, as if the balls are allowed to become in the least dry, the plants would drop and receive a severe check.

A. YOUNG.

SPROUTING EARLY POTATOES.

THE time has arrived when those who wish for early Potatoes, say, at the end of March or early in April must prepare the sets by introducing them into a little warmth and moisture. An early Peach house or one in which the temperature ranges from 45° or 50° at night to 60° by day is suitable for the first lot that are to be planted in frames, say, about the first week in January. I have now abandoned the old-fashioned way of placing leaf-mould or fine soil in the bottom of the box in which the sets are raised, as I found that unless planting was performed in the nick of time the young rootlets got interwoven, rendering it impossible to separate them without injury. I simply place them end up in the box, giving them a slight sprinkling with the syringe occasionally or from time to time, avoiding saturation, which is likely to cause rot. As soon as growth is sufficiently advanced to remove I rub all the sprouts except the two stoutest, as one of the worst evils in connection with frame culture is too much leafage, by which sun and air are excluded. In about a fortnight's time it will be advisable to place those sets that are intended for successive frame crops, to be planted at the end of January and beginning of February, in boxes in quite a cool greenhouse to sprout gently. If left till the last and then hurried on in much heat the produce is invariably poor. Potatoes for very early work are often placed in autumn in some out-of-the-way corner and not again inspected till wanted for starting into growth, when it is found that blanched growth has been going on for some time, the tubers, of course, being much weakened. The best plan is to store in a cool place thinly, and to examine them at short intervals, removing the growths immediately they appear. There is not much gained by previously sprouting tubers intended for pot work, the best way being to plant them at once in the pots, keeping the soil on the dry side until growth appears.

J. C.

Winter Turnips.—Many have a desire to see their Turnips, Carrots, Parsnips, Beets, Celeriac, and other vegetables housed and the store made neat for the winter supplies. I am sure there is too much haste often displayed in the lifting of roots. Many need no storing at all. I have often seen such as Carrots and Turnips very scarce, the

farm having to supply such in country districts. We coddle our roots too much, with the result that they lose quality, grow out badly, and are not fit for use. I often see winter Turnips in the store long before this; whereas they would be better freely exposed and would remain solid longer. I am aware roots much overgrown will not stand such frost, but these are useless in any form; it is the medium or even undersized roots which keep best. If Turnips are grown purposely for winter use they give little trouble if not stored too early. My plan is to place them in bulk and cover with enough Bracken to ward off severe frost.—S. M.

White Milan Turnip.—This variety received an award of merit on June 15 for its earliness. This I quite agree with, as when sown in the open in March, it was fit to use the last week in May. I am aware the Extra Early Milan, or the purple-topped form, is equally early and somewhat like the white form in character, both as regards quality and appearance; but the one named was a few days earlier, and at the season named a few days are a great gain. Where vegetables are required in quantity, I see no difference whatever in the quality of the two kinds, and some may prefer the older form on account of its distinct colour. The Milan section of Turnips is the earliest of all, and though this is their best quality, it is a valuable one. For frame work or forcing they are of great value, as good roots may be secured in a short time, and with less top growth than in the case of some kinds. For summer use I do not advise their culture.—B.

ORCHARD AND FRUIT GARDEN.

THE FRANKENTHAL OR VICTORIA HAMBURGH.

A FINE Vine of the above variety, nearly 100 years old, is growing in one of the vineeries here. It is planted in a narrow front border about 1 foot wide, and the main roots pass out through the bold in the front wall and occupy an outside border of the same length as the house. The main stem is 13 inches in circumference—not nearly so large as one would expect considering its age—and from it there are sixteen rods leading in different directions and covering the whole of the trellis. Originally it was a single-stemmed Wine, and the fruit produced by it being considered far superior to that of other Black Hamburgs grown here, it was decided that the whole house should be given up to this particular variety. Accordingly the rod was headed back to induce it to break near the wall plate. This it did in a very satisfactory manner, and vigorous young canes were trained out in all directions, sixteen of these being retained to form permanent rods. These rods eventually produced Grapes of exceptionally fine quality, the bunches too being large. As this heading back took place some twenty-three years ago, such fine bunches are not produced now, but there is not the slightest diminution in the size of the berries, and last year they were quite as large as the berries of Gros Colman. A few years ago the Grapes on this Vine began to shank badly, and after due deliberation a partial lifting was decided upon the following autumn. One half of the border was accordingly removed and plenty of healthy roots were found. These were taken great care of and wrapped up in damp Moss, with mats placed on the top to prevent them from drying. When the last portion of the border was removed it was found that it was not so much a removal of soil that was needed as the removal of a tap root which had grown from the bottom of the main stem. This had gone straight down through the drainage and several feet into the

clayey subsoil below. The root must have been growing at a great depth, as it wasas large round as one's wrist, and it being impossible on account of its size to lift and place it in a more convenient position in the border, I determined to cut it off. It was severed close to the stem, and I took steps to prevent anything of the kind occurring again by putting in a floor of concrete. It is rather singular, and shows the vagaries of vines, that slacking should not have occurred before, as previous to the time I speak of there was no shaking worth mentioning, or not more than one might expect from an old vine with an unlimited root-run.

After the removal of the root, the new piece of border was put in and the roots laid out in a careful manner, the older ones being nicked throughout their length to induce them to emit new rootlets. The following season, as may be imagined, the vine did not make a great deal of growth, but an immense quantity of new roots was made in the new border, and the year after it had quite recovered. Since then it has borne as well as ever, and according to appearances seems likely to do so for many years to come. Several of my friends thought the lifting of such an aged vine would cause its death, and were astonished to learn afterwards that it suffered the loss of a large root into the bargain, but this only goes to prove what an amount of recuperative power a vine possesses. It may be mentioned in concluding these notes that vigour is maintained by top dressing the older portion of the border with new soil every three years, and by applying artificial manure to the whole of the borders twice in the season. The first application is given when the house is closed for starting, and the second soon after thinning is completed. To prevent undue evaporation, the surface of the border is mulched with straw manure from the stables. Since putting the above the new piece of border has been top-dressed, as an examination revealed the fact that the roots had permeated it throughout its entire length and breadth, and the surface could not be disturbed owing to the presence of so many hungry feeding roots.

Stoke Edith.

A. WARD.

CORDON PEARS.

WHILST fully prepared to admit the value of the cordon system in Pear culture as producing very high class fruit and enabling one to grow a great number of varieties on a limited area, the complaint must be made that several sorts are by no means a success. Their cropping is decidedly below the average, and so far as healthy growth is concerned it seems impossible to get them to grow freely. When planting trees on a wall a few years ago I purchased in a general way a thin top spit from a nursery, and every season since the tree had an annual top-dressing, and constant mulching if the summer has proved hot and dry. Some have responded well to the treatment, but the failures are more numerous than one cares to see. I fancy the offending varieties would on a soil like this do better on the Pear stock; they certainly want something to give them additional vigour. Shoots come away fairly well, but the season has only run half its course before the tops shrivel, blacken and die back quite one-third the length. That the stock in these particular varieties is responsible for this is, I think, apparent from the fact that others on the same wall and with precisely similar treatment went to the top in two seasons and have always been healthy and vigorous. William Bon Chrétien, Louise Bonne, Glou Morceau, Beurré Del, Pitmaston Duches, and Joëphine de Malines, are a few examples of sorts doing thoroughly well. Special offenders, on the other hand, are Beurré d'Anjou, Beurré Bachelier, Loyer du Maine, Olivier de Serres and Chau-

montel. It is worth noting that fruit obtained from Beurré Diel cordons is vastly superior to that from old trees, the latter can only be used for stumping, but the cordon fruit is juicy, fairly sweet and good. In all cases ripening has been earlier, and that despite the fact that the fruit was allowed to hang as long as possible. For instance, I finished both Winter Nellis and Glou Morceau by the end of the first week in December, and good late Pears will be hard to find after that date. An old tree of Althorpe Crassane on a north-west aspect has proved an acquisition this year, resulting out longer than usual and ripening up well, Chaumontel and Zephirin Grégoire are just coming in. Among later sorts occasionally recommended that are not so well known are Marie Benoist, Mme. Millet, Nouvelle Fulvius, and Beurré Sterckmans. Perhaps some correspondent who has tried them will say if they are a success as cordons.

E. BURRELL.

Apple Court Pendu Plat.—Were it not that this variety enjoys the reputation of being so ex-

ceptionally long it would be difficult to conceive how it could be of any value. Whether it is some good disease associated with canker or not, in any case it is evident that the primary cause is found in starvation, owing to the roots getting into soil almost, if not quite, devoid of essential food. Mr. Arnold's experiments bear out conclusively the results of Mr. Tonks' (Birmingham) experiments. The first thing is to sever roots gone in the wrong direction, to replace useless soil with good soil, and to feed the newly-formed roots with proper food. Cure soon follows.—A. D.

Apple Scarlet Nonpareil.—This small, but very showy and good-flavoured late Apple, for some unexplained reason, has been discarded of late years. This is the more strange considering that the tree is very hardy and a good cropper. Moreover, the very late date at which the fruit comes into use adds to its value, it being often plump and good as late as the beginning of June.

At Earl's Court several years ago a grand dish of it was shown by Mr. McIndoe, which was much admired. It seems to do well in several gardens in the west of England—Hutton, for one. It stands a unfavourable spring well and generally yields a good crop. Where desert Apples are being planted for late use, Scarlet Nonpareil should certainly be included.—J. C.

Pear Uvedale's Saint Germain.—It does not generally known that this monstrous stewing Pear is slow at coming into bearing. I have never known it to fruit in a young state except once, and that was a tree double-grafted and grown in a pot. The fruits were enormous, and received first prize for weight at an important exhibition. I remember a horizontal tree on a west-wall in an east garden which did not bear a single fruit until it had grown to a large size, or until it was at least eight or nine years old. When, however, it commenced to bear, it did so regularly, the fruit being very fine. I have had it in this garden, both on a north and south wall, for the past nine years, but even with root-pruning I have not been able to induce the trees to fruit. I have it both in the horizontal and cordon form, both alike being unfruitful. I really think it is the only thing which will insure fruitfulness in this variety.—C. C. H.

Apple Lady Henniker.—

Whilst many Apples which in trade catalogues are bracketed as both dessert and cooking are after all only fit for the kitchen, there are a few which well merit the double title; amongst these, Lady Henniker is prominent. Grown either as an espalier or as an ordinary orchard tree in a sunny position, the fruit colours up handsomely, and is at the end of December and in January brisk and refreshing eaten in a raw state. It bears sooner as a standard than as an espalier, being a rather strong grower; but very fine fruits are produced by the latter system of training. Lady Henniker is a conical Apple, slightly ribbed, skin a delicate yellow, heavily flushed with crimson when the fruit is exposed to the sun. As a cooking Apple it is hard to beat.—C. C.

Pear Hesse.—Perhaps there is no Pear ripening in October that is more widely cultivated than Hesse, and although the fruit will not keep long after it is quite ripe, yet if gathered with judgment before quite matured it will stand packing



Fruit and flower border. (See p. 487.)

exceptionally late a bloomer, we should hear very little about it. Its fruits are of fair dessert merit, but of no special excellence, and it has the undoubted demerit of being a thin cropper. For that reason alone it is no great favourite. It seems to be somewhat inconsistent to praise the variety because it blooms late, and therefore escapes frost (totally ignoring the fact that oftentimes we have sharper white frosts when the Apple is in bloom than when the great bulk of Apples are in bloom), and yet having to admit that it is but a sparse cropper. If that be so, wherein lies the merit of that bloom so late, seeing that many better varieties that bloom early fruit better and are of more robust habit of growth?

Canker.—“W. J.’s” admirable description of the excellent way in which Mr. Arnold dealt with and cured his previously much cankered trees is good reading because it serves to show what so

and sending to market. The fruit is somewhat below medium size, greenish-yellow in colour, with numerous russety spots, the flavour being very juicy and refreshing. It is one of the most prolific varieties in existence and thrives well in cold wet climates. A good many Hessees are grown in orchards in Notts and Yorkshire, and still more in the southern counties. In private gardens a tree or two should always be grown, as the fruit can be watched and gathered just in the nick of time when at its best. *Hesse*, although some what uncertain, is not nearly so much so as sorts like Jargonne and Citron des Carmes.—J. C.

DESSERT VERSUS KITCHEN APPLES.

I am glad to see that this matter is being ventilated, for under existing conditions one never knows exactly what to do. Personally, I have always refrained from showing cooking Apples as dessert varieties, with the single exception of Blenheim Orange and have had to suffer defeat in consequence more than once. Last year at our local Chrysanthemum show the prize collection of six dishes of dessert Apples contained Golden Noble. This year the corresponding collection contained Emperor Alexander and Collini Pippin, the former of which is, to my thinking, outside the pale altogether, and the latter only worthy of use in a case of emergency, being long past its crisp stage by the middle of November. Pitted against the collection containing these was one in which were good samples of Ribston, Cox's Orange Court Pendu Plat, Fearn's Pippin, King of Pippins and Blenheim Orange. The only possible excuse for placing the prizes as they were placed was the extra size and fine appearance of Emperor Alexander. Of course, such mistakes are only possible with non-experts, and the Chrysanthemums are most catered for at these shows, as is only right. I should like to suggest that where there is a doubt as to the qualifications (as fruit experts) of the judges available, collections would be best avoided, the prizes being given for single dishes of certain specified varieties, the best in each division, as is done in the single dish classes at big shows; then we should see only the best, and each variety would be brought direct into competition. This would also do away with the attempts to grow a large number of varieties in preference to a smaller number. Nurserymen's catalogues are no safe guide as to the definition of class, to which a certain variety may belong, as it is to the interest of nurserymen to classify Apple as good for both divisions, provided it has the slightest claim to the distinction.—CORNUBIAN.

I am pleased to see that "W. S." and "B. M." have taken up the question "Apples—Cooking or Dessert." The latter is correct in his supposition that at the recent exhibition of the National Chrysanthemum Society at the Royal Aquarium an exhibitor staged in the classes for six dishes of Apples, dessert, fit for table, and six dishes of Apples, cooking, Blenheim Orange and Cox's Pomona in both classes, and gained the first prize in both. In the "Fruit Manual," Blenheim Orange is defined as either for cooking or dessert, but, strictly speaking, more suitable for the latter. Cox's Pomona is described only as a cooking Apple. There was no lack of fine fruit from all parts of the country which were classified correctly, and merited more discriminate and careful judgment.—T. W. STARTUP, *West Farleigh*.

I cannot agree with you, Mr. Editor, that Emperor Alexander Apple is purely a cooking variety (p. 448) when it is generally used for dessert. Besides, it is superior for that purpose to many of the so-called dessert sorts. All Apples that are eligible for cooking and dessert, except although not of the finest quality for dessert, among which Alexander may be included, have a perfect right to be included in dessert classes at shows. "B. M." on the same page takes exception to Blenheim Orange and Cox's Pomona being shown in both sections. Both are entitled to be so shown, as they can be employed for either purpose. The exhibitors complained of

were quite within their right, and the judges only did them justice. Some varieties of dessert Apples are very much superior to the so-called cooking sorts when cooked. Were any exhibitor to show Cox's Orange in a class for cooking sorts would "B. M." disqualify, to pass the lot over? We very much want some standard whereto judges and exhibitors could look for guidance in matters of this kind.—R. C. H.

"* If "R. C. H." will kindly refer to Mr. Barron's notes on Emperor Alexander at p. 183 of "British Apples" he will find that he classes this variety as suitable for cooking only. It is in this valuable work referred to as being large, soft, acidic, of sweetish taste; whereas dessert Apples should be of medium size, firm, juicy, and of first-rate quality. No one who knows any thing of fruit would think of showing Cox's Orange as a cooking Apple.—E.P.

The question as to what varieties of Apples are entitled to be classed as dessert is just now being forced to the front. If allowed to remain unanswered, it will but remain in an unsettled and unsatisfactory condition. I have suggested that the fruit committee of the Royal Horticultural Society should deal with it, and issue an authoritative list of recognised dessert Apples, leaving to show committees and judges to accept it or otherwise. So long as show schedules use the term "dessert," which has of course a certain recognised meaning, just so long will it be needful to make clear what in both Apples and Pears are recognised dessert varieties. As a rule we require the existence of certain flavour in dessert fruits, which is not mere sweetness, or softness, or acidity, but an innate quality easily appreciated by the palate, but not so easily described. The presence of that flavour seems to be the chief guide in determining which are dessert Apples, although many not possessing it are yet very pleasant eating.—A. D.

I think most gardeners will agree with the views of "W. S." (p. 448) in his notes on the above subject. I think if judges would only have the courage of their opinions, it would soon do the wholesome effect for the better. It is not only from an exhibitor's point of view that awards may go to the wrong, but to the mislead the public. Many persons go to such shows, and if they do not know any better, the first prize collection, whether it contains true dessert Apples or not, takes their eye and the varieties are noted accordingly.

Medium sized fruits of cooking Apples of certain varieties are very handsome in appearance, but these do not require the same care to produce as true dessert kinds. Fancy Golden Noble, Emperor Alexander, Cellini, Lane's Prince Albert, Golden Spire or Gascoigne's Scarlet being entered as dessert! Because such varieties are classed as such in trade lists, I do not think that should be taken as a criterion that they are so. The same with so-called dessert Pears; one-half the varieties exhibited as dessert fruits are only fit for stewing.

—A. YOUNG, *Witney Court, Stowport*.

PUBLIC GARDENS IN BERLIN.

I WAS surprised, on visiting Berlin last July, to see the grass and vegetation generally in the gardens of the German capital resplendent with a verdure that was truly astonishing. In Germany, as in England, the drought had been extreme and the summer heat intense and continuous, but, in spite of this, the gardens presented a picture of freshness, all the more wonderful from the fact that the soil in and around Berlin is of a very poor, sandy nature. I was not long in discovering the secret. The grounds are well mulched and manured during winter, a great part of the lawn is re-sown every spring, and abundance of water is constantly supplied during the summer months. Such treatment means constant care and labour, which is true, but the result certainly seemed worth the trouble, for most of the lawns I saw were simply perfection. Even right under the shade of trees in such deeply wooded grounds as the Thiergarten, a delightfully brilliant verdure is produced by an ever-young crop of fresh grass which is renewed every year.

The next great difference between the parks and gardens of London and those of Berlin is that the latter contain considerably more plantations, and therefore provide for a greater number of shady walks. The average summer heat of London is not nearly so great as that of Berlin, and the cooling shade of trees is therefore in request on exceptionally hot days only, while during a Berlin summer the heat would be more uniform throughout the season. In England generally, therefore, parks and gardens are open to the public, which often retains its verdure throughout the winter, when the lawns of the Continent would be either browned by hard frost or covered with snow.

I will now briefly review some of the principal public gardens of Berlin, and as a detailed description of each would be out of the question, I will mention only such of the principal features as would seem interesting from the English gardener's point of view.

THE THIERGARTEN.

The Thiergarten is to the Berliner what the Bois de Boulogne is to the Parisian. Its principal approach from the centre of the city is through the celebrated Brandenburg Gate and in direct continuance of that delightful street called Unter den Linden. It is, roughly speaking, about 3½ kilomètres in length and about 1 kilomètre in width. Two centuries ago it was a forest, but during the reign of Frederick the Great it was converted into a public park, consisting mainly of straight avenues diverging in star fashion from a central point. But during later periods it was treated in a more picturesque manner by the landscape gardeners Lenne, G. Meyer, and Neide, and their present successor, Director Maetzig. Straight lines and curves have been harmoniously blended and a succession of lakes and irregular plantations has been introduced with good effect. There are no large tracts of grass, as broken by plantations, as a good deal of the forest character had to be retained, but wherever there is lawn between or beneath the trees it is of that delightful verdure which is so refreshing to the eye and which I have described above. Flower beds are mostly confined to the parts near the principal entrance and to the large square near the House of Parliament known as the Königsplatz, and adorned in the centre with that magnificent monument called the Column of Victory. The principal trees are Oak, Birch, Acacia, Sycamore, Thorns, and Beech, with here and there some Chestnuts and an undergrowth of Snowberry, Elder, Spirea, &c. The most picturesque part is probably the portion containing the so-called Neue See, or new lake, but the most solemn and impressive feature is the dignified surroundings of the monumental statues of King Frederick, William III, and his consort, Queen Louise (mother of the old Emperor William the First). Last, but not least, I would mention the playgrounds for children provided, mostly under shady trees, not only in the Thiergarten, but in all public gardens in Berlin. On the principle that the juveniles are best kept out of mischief by giving them something to do, huge heaps of sand are provided, in which the children may dig about to their heart's content, and the large sand buckets of the little ones could not be employed more advantageously than the seashore which is so far away. These large sand heaps are, of course, renewed periodically and are allowed on gravelled playgrounds only. Grass-covered playgrounds are also provided and kept free for other games. The Thiergarten is the largest of the Berlin public gardens, and though other grounds have more artistic merit, none surpass it in usefulness, as a cool and shady recreation ground near the centre of the city.

THE HUMBOLDTHAIN.

This public park is situated in the north of Berlin, and its area in English measure would amount to somewhere about 80 acres; but though not very large it is admirably planned throughout, that it may well be called one of the masterpieces of its late designer, Gustav Meyer. This landscape gardener has, perhaps, acquired greater

fame than any other on the Continent. He was a disciple of Linné, and died in 1877. The wall of the directorial building is adorned by a large medallion bearing a life-size reproduction of his head in marble, and in his honour the broad double avenue which forms the main entrance to the park from the Brunnenstrasse has been named the Gustav Meyer Allee. The avenue trees used consist chiefly of Walnut, Horse Chestnut, Lime, and Plane, connected with each other by graceful festoons of Vines. One or two such broad avenues was absolutely necessary, but otherwise the park is laid out in the irregular or picturesque style. The greatest charm consists in the admirable way in which the grouping of the trees and shrubs has been effected, and the saying that "the greatest art is the concealment of art" is here truly exemplified. In his delightful effects of light and shade in the landscape, in his perfectly natural style of grouping, and in his gradual amalgamation of plantations and lawn, G. Meyer has never been surpassed. A peculiarly charming and natural effect is the way in which often two, three, or even more stems of trees spring up from the same spot as we so often see them in Nature. The Humboldthain contains large tracts of undulating turf as well as large plantations with irregular bays and recesses which change the scene with every step. There are no stiff outlines of any sort, and though the grouping is intended also as a scientific lesson in geographical botany by keeping plants of the same native country together, the blending is effected so harmoniously, that no lines of demarcation between the plants of various zones can be detected. Near the centre of the first avenue is a pile of buildings which contain the residence of M. Maechtig (the present director) and rooms for the teaching of botany and other sciences. The first geographical zone reached from this point is marked by irregular, but artistic groups of trees and shrubs from China and Japan. These contain among others handsome specimens of *Sophora japonica*, *Paulownia imperialis*, *Broussonetia papyrifera*, *Polygonum Sieboldii*, *Castanea japonica*, *Catalpa syringaefolia*, *Gleditschia orientalis*, and many others. Conspicuous among the American section were *Viburnum Lantago*, *Quercus macrophylla*, *Picea alba*, *Esculus macrostachya*, with long spikes of white flowers, *Acer virginicum rubrum*, the Night-flowering Viburnum, *Hicoria minimus* (Hickory), *Juglans cinerea*, and a great variety of others more generally known. Asia is represented by *Rhus Cotinus*, *Pterocarya caucasica*, *Caragana frutex*, *Pyrus sinocapitula*, *Quercus macrocarpa*, *Pyrus elaeagnifolia*, and *Acer monspessulanum*. The last named has small Ivy-shaped leaves of a bluish green or grey colour. The leaves are shiny, and last till late in the autumn. This plant also possesses the merit of flourishing beneath the shade of other trees. From Asia there are also represented a whole host of other plants too numerous to mention. The European section contained nothing particularly new or striking except plants well known in this country, but I could not help admiring the grace and beauty of *Alnus glutinosa laciniata*, with long arching branches of graceful Fern-like foliage. Here I may also mention *Alnus glutinosa acuminatifolia*, and *Alnus cordata*, the former with Thorn-like foliage and the latter with heart-shaped leaves. What a garden could be made in England if this grouping according to the geographical habitats of the various plants could be carried into effect, say, at Kew or Regent's Park. In Germany, where the winters are so severe, the choice of varieties must naturally be limited, but in England even the plants of India, New Zealand, Australia, and Africa might be called into requisition. The Humboldthain is well kept and is full of interest to the professional gardener as well as to the amateur, but bright flowers there are few, except in the parts from which the general public are excluded.

THE FREDERIC HSIAHNE.

The public park bearing this name is larger than the Humboldthain, and, being situated at the

east end of Berlin, it is frequented mostly by the labouring classes of the population. It is older than the Humboldthain, but not so beautiful nor so well kept. During the time that G. Meyer was director of the public parks of Berlin he made some important improvements, and paths around the lake and near the statue of Frederick the Great are very picturesque; but, on the whole, the park is inferior to the other public gardens of Berlin.

THE VICTORIA PARK.

This is the latest addition to the Berlin parks, and differs materially from any other public garden by virtue of its wild, mountainous character, which is partly natural and partly artificially produced. The Victoria Park is much smaller than the Humboldthain, and is situated on the so-called Kreuzberg in the southern part of Berlin. The laying out began in 1886 and completed in 1893 from the designs and under the superintendence of M. Maechtig, the present director-general of the public gardens of Berlin. Until that time the Kreuzberg was merely a large sandhill with a few scattered Acacias and Sycamore trees here and there, and traversed by a natural gully partly clothed with vegetation. The top of the hill was crowned by a handsome Gothic monument, erected about eighty years ago in commemoration of the victories over the French in 1814 and 1815. During the recent innovations it was found necessary to raise this monument, which has otherwise remained intact, but the base of which is now about 100 feet above the level of the main road passing in front of the park. The *chef d'œuvre* of the Victoria Park, as now laid out, is a magnificent waterfall some 55 feet in height, which thunders forth through apparently natural ravines and over rocky cliffs and boulders at the rate of 10 cubic metres of water per minute. This fall traverses the whole park from just below the monument to a rocky basin near one of the chief approaches, viz., that from the Grosserstrasse. Being exceedingly wild and irregular in character, this waterfall is of natural appearance, and shows none of the horrors of such geometrical cascades as may be seen at Chatsworth and elsewhere. The apparent irregularity is still further increased by one large and several smaller falls branching off from the main watercourse. At its source the water is seen to emerge in large and small streams from crevices in the rocks as often found in Nature, and its course is an irregular and winding one. The rocks consist of limestone skilfully arranged to represent Nature, but as they are scattered here for distant effect than for close inspection, they unfortunately show several crevices filled with cement instead of with alpine plants, and the plants used for their adornment consist mostly of rank-growing climbers like *Amelanchier*, rambling Rose, and similar plants as Junipers, Yews, &c. The basin at the foot of the fall is about 180 feet long, and surrounded partly by scattered rocks protruding here and there from a well-kept undulating lawn, and partly by a bright foreground of naturally grouped *Hemerocallis* and *Funkias*, mixed with *Geraniums*, *Lobelia*, *Iberis*, *Phlox Drummondii*, *Tetragonia* and others. There are also groups of *Iris*, *Yucca*, *Polygonum cuspidatum* and other effective plants. Ascending the hill by one of the many walks that wind in gentle curves through undulating lawns and well-grouped plantations of conifers and deciduous trees, one notices several groups of nice flowering shrubs. The evergreen shrubs so common in English gardens are of course unknown here, as the very first winter would kill them. Evergreens are, therefore, mostly restricted to various kinds of Box, Yews, &c., and most of the flowering shrubs are deciduous. I noticed among others *Cytisus capitatus* and *Spiraea Douglasi* flowering in profusion. From the highest summit, i.e., from the base of the before-mentioned monument, a magnificent view is obtained not only of the park, but also of the city and its surroundings. The gully which formerly traversed a portion of the park has been treated as a ravine, with Ivy clad slopes from which apparently natural

rocks protrude here and there; this has been named the Wolfschlucht (or Wolves'-den), and in it Ferns and the large existing trees, consisting mostly of Acacias, Sycamores, and overhanging Elms and Oaks, have been used with good effect. What seemed to me an excellent style of grouping, very different from that generally practised in England, is the apparently natural irregularity with which all groups of planting amalgamate gradually with the lawn, instead of forming hard-and-fast outlines of more or less stiff appearance. Herbaceous plants and annuals of all sorts play an important part in this work, and the effect was a very pleasing one indeed. As the soil is generally of a dry sandy nature, great care has been taken not to waste the rain water that falls on the paths, &c. With this view sinks and gratings are avoided, and every now and then the paths are traversed by what, during the dry season, appears as an irregular desiccated streamlet, but is in reality an inconspicuous form of gutter for conveying the surface water to plantations which need it. The enormous quantities of water used for the fall are forced up by two powerful engines, each of fifty horse power. The water which has fallen over the rocks collects in a basin, and is forced again and again to the top, but in order to prevent stagnation, about one-fourth or one-fifth of the water is allowed to flow into the drains and the deficiency is supplied from six deep wells. The park contains also a playground and many cosy recesses with seats, affording delightful views. The lawn in the Victoria Park is of the same faultless freshness as in the other Berlin gardens, and betokens tender care and uncasing labour.

There are several other public gardens in the German capital. The splendid Treptower Park, for instance, I have already described in my notes on the Berlin Industrial Exhibition. There are also several which I did not have time to see, but those mentioned above will suffice to give a fair idea of the best of the Berlin public gardens.

Elmside, Exeter.

F. W. MEYER.

THE GARDENS AT LYONS, CO. KILDARE.

The widespread demesne at Lyons belongs to the Connaughts, and includes the great hill of Lyons, which stands on one side of the fertile plain through which the river Liffey flows, an elevation which forms a well-known landmark in the neighbourhood of Celbridge and Straffan. The residence is fronted by a spacious lawn and flower garden; there are a lake of over 30 acres, extensive woodland drives and walks, and a rich and sheltered kitchen garden. The gardener's cottage here forms a pretty feature, covered, as it nearly is, with evergreen Cotoneaster, an avenue of Roses leading to the door.

The glass houses and greenhouses contain a varied and choice collection of exotics, Palms, Orchids and Ferns being in great beauty. One specialty of the summer flower gardening here consists of tuberous-rooted Begonias, of which some thousands of splendid tubers are grown, and another feature consists of Carnations, all the best varieties being represented in the open borders of the kitchen garden, or in a greenhouse especially devoted to the culture of the Malmaison and perpetual blooming kinds. All the best forms of the Malmaison rage are grown, including some very fine healthy specimens, that when in flower last autumn secured a special award of a silver medal from the Royal Horticultural Society of Ireland. Mr. W. Rigg, the gardener, is a great lover of these dainty and fragrant flowers, and his extensive stock of newly-planted layers is of the strongest and most healthy description. Lord Rosebery, Corunna and Monte Cristo are three of the best and most robust yellow-flowered kinds as grown here, while Fireball and Sunrise are considered by Mr. Rigg to be two of the best scarlet varieties in cultivation. The fuchsias and rosy-petaled Princess Alice of Monaco and the well-known yellow Germania were producing very fine blooms indoors, and many seedlings are being

raised of all the sections. Chrysanthemums and zonal Pelargoniums were very bright and showy in a large ridge-and-furrow conservatory, and the brilliant golden pompon Alice Stephens attracts everyone's attention as a most effective decorative variety, even as seen alongside the largest and finest of Japanese, Anemone and incurved blooms. Amongst a very strong and free-bloomed group of zonals, one known provisionally by Mr. Rigg under the name of Gregory is a very fine scarlet, others in fine condition being Clytie, Caliban and Lizzie Brooks.

In this cool house there is a very fine and healthy plant of the old-fashioned Oak-leaved Myrtle, a fragrant shrub now very rarely seen. This is *Myrica quercifolia*, a bush of which is growing in the temperate house at Kew. Here is also a strong plant of the sweet-scented *Daphne indica* roses, about 4 feet in height by fully as much in diameter. The plant has been planted out in the floor or border of the house near the glass for several years, and, so far as one can now see, it appears to be upon its own roots; and not grafted, a practice that very often renders this sweet and pleasing half-hardy shrub extremely short-lived. A very fine batch of *Freesias* occupies a shelf near the glass, and the growths are supported by a few Larch sprays, a method that is easier, quicker, and more pleasing in appearance than the usual stiff method of staking. In one of the warmer houses there is a fine collection of *Rhipis*, *Howea* (*Kentia*), *Areca*, *Calamus*, or *Geonoma*, and other Palms, well grown in small pots, the surface of the soil being elegantly covered with growing *Lycopods* (*Selaginellae*); and other fresh and interesting species. A very strong batch of flowering Calantheas is grown here, the kinds being C. Vireyi type, and also a pale form having the rosy flowers mottled boldly with white, the spikes being also more erect and more densely bloomed than is the case with the normal rosy form or typical variety. *Dendrobium chrysanthum* and a strong plant of *D. formosum giganteum* were in bloom, a strong growth of the latter bearing several of its ivory white and yellow lily-like blooms, which, apart from size and beauty of form, exhale a very delicious aroma. *Allamanda*, *Wardianæ*, the smooth-leaved *Bougainvillea glabra*, *Stephanotis*, *Passiflora kermeensis*, *Ipomoea*, *Horsfallia*, and other beautiful climbers are luxuriant and flowering freely in the stove. The crimson *Ipomoea* bore such a rich profusion of its flowers and glossy black buds, that I asked Mr. Rigg for his secret of culture, and so found out that, other things being equal, it flowers much more freely if its strong leading shoots are stopped at the points occasionally, this naturally causing the formation of the lateral buds or growths from which the flowers are produced. The deep crimson-flowered form of *Lapageria rosea* and its white variety grow and bloom very freely in a cool conservatory even thus late in the season. Sweet-scented Violets are largely grown in frames, and of nearly all the approved kinds, the special favourite is a very fragrant double-blown blue kind, evidently related to the Parma Violet, but having more shining leaves and longer flower stalks. This variety was raised in Ireland, where it is known as the Cooleconan Hybrid Violet, and it appears to have been brought into notice by Mr. Andrew Campbell when he was gardener at Cong, in Co. Galway, some years ago. Roses grow well at Lyons, and there is a fine old plant of Solfatara dangling over the low arched garden entrance. There are fine old standards and dwarf or low-trained examples of the best varieties, and on the wall of one of the men's lodges, sheltered by surrounding walls and buildings, is a fresh and healthy specimen of the evergreen, single-blossomed *Macartney Rose* (*R. bracteata*), beside it being Climbing Exoniensis, or Devoniensis, and the old pink China, thickset with its shell-petalled buds thus late in November. The Macartney Rose is a souvenir of one of the earliest and most successful of our ambassadors to China, and is so distinct and effective as seen fresh and healthy, that one wonders to see it so sparingly cultivated even in

gardens where the genus *Rosa* is somewhat of a specialty.

A new rock border and shrub garden are being made, and there are other signs of well-directed activity. The timber consists of fine Beech and Scotch Fir, Silver Fir, Larch, and other trees, and a good deal of fresh planting has been effected of late years, so that the plantations now add much of shelter and beauty to the other interesting features of the place.

As before alluded to, the great round-topped hill of Lyons forms a distinct and characteristic landmark from the plains below, and during the summer months it is a favourite place for picnics and excursion parties, the views from its grassy summit being both extensive and very beautiful. In the spring months the Pine woods and plantations are very fresh and green with the young leaves of the tasseled Larch, the ground below being then one dense and fragrant carpet of wood Hyacinths or Bluebells.

F. W. B.

THE PROPOSED "HOME OF HORTICULTURE."

The need of some meeting-place for gardening people has long been felt, but the scheme of Mr. James L. Wood, "In honour of Queen Victoria's Glorious Reign," and for which he craves publicity through the press, certainly does not meet the want in any right way. This gentleman suggests the erection of a building and the establishment of a garden somewhere in the centre of London upon lines altogether unworthy of the object. It is difficult, too, to trace any connection between horticulture and the permanent exhibition of goldsmiths', leather-sellers', and carriage-builders' appliances that he would make a feature of in the proposed building. "Musical arrangements" are not essential, and although Mr. Wood promises that they shall be of the highest class, and mentions "National Festival Concerts," it is easy, judging by precedent, to foresee a transition into the tight-rope and skirt-dance state of affairs, when the "scarlet curtains," which we learn are to conceal the various courts on concert occasions, might certainly be an acquisition.

The central idea of this scheme is that a place is wanted for great shows, whereas nothing of the sort is required. There are half a dozen places in London where shows can be held, from the Temple Gardens and the Botanic, both excellent, to the Crystal Palace, and shows under open-air conditions in summer-time are very much better than shows in a closed building like a great hall.

Finally, it is extremely doubtful if there are many gardeners who would care about paying £25 or £12 10s. to have five names, as "life governors," even with the additional attractions of a picture gallery, and that in the "Gardeners' Club-room," another feature of the building, "refreshments will be supplied to them at a reduced tariff."

The history of such enterprises as the one proposed by Mr. Wood during the past thirty or forty years is very instructive to anybody who takes notice of such things. It began with the Crystal Palace, which has ruined everyone connected with it, and has done no good to gardening unless as offering a colossal example of what to avoid in the way of ugly extravagance. The Alexandra Park is another dismal example of the schemes planned for the "good of horticulture." That also came into existence with a great flourish of trumpets, leaving very much on "horticulture," but nobody ever got anything by it except the builders, who figured a beautiful landscape by its ugly presence. As for the "Aquarium," we remember the flourishes about the lovely and select

winter garden it was going to be, and now when there is a show there we have the pleasure of seeing the flowers through a fog of bad tobacco smoke and other varied dis-tractions not in any way for the good of any gardener that finds his way there. Therefore, if any house is built for the gardening confraternity, all we can hope is that it will be absolutely distinct from anything of this sort and not a show scheme of any kind.

The history of the partial ruin of the Horticultural Society itself is the history of an extravagant project of this kind in which an enormous sum of money was sunk in a false and showy scheme of ghastly and useless corridors, broken stone bedding and broken stone fountains, &c., that all looked very well on paper, but when carried out pleased nobody and served no good end. In fact, the less of such places gardeners see the better, and owners of gardens would do well to give no encouragement to such extravagant schemes.

What is really wanted is a simple and dignified building for meetings without any irrelevant side-shows, musical or otherwise, with their now invariable accompaniments of tobacco and "liquor."

FINGER AND TOE.

QUITE recently Mr. M. C. Potter, of the Durham College of Science, Newcastle-on-Tyne, has made some very interesting experiments on the finger and toe fungus (*Plasmopidophora brasiliensis*) for the purpose of ascertaining how long it can remain alive in the soil. This is a very important point, as it is most desirable to know when infested ground may be considered free from this pest. He gives the following account of his experiments in *Nature* of November 12, 1896:—

The length of time for which *Plasmopidophora brasiliensis* can retain its vitality in the soil in the absence of any cruciferous plants is a matter of considerable interest in order to ascertain, in November, 1895, I established a series of experiments intended to extend over a period of six years. In these experiments six beds (A to F) and six large flower-pots (A to F) were prepared and strongly infested with pieces of Turnip root badly diseased with finger and toe, one bed and one flower pot being sown with Turnips each successive spring. The beds were treated as duplicate experiments and the soil in both the flower-pots and the beds was carefully guarded from the intrusion of *Plasmopidophora brasiliensis*, while all cruciferous plants were rigorously excluded. In 1894 in both pot and bed A finger and toe appeared. In 1895 in pot B finger and toe was found on four plants out of six; in the bed B 8 per cent. were diseased. In 1896 the same result was strikingly shown. After a period of three years the flower-pot C were still found to be diseased, four out of five plants being affected in the latter and 10 per cent. in the bed. Marie had previously shown that the germs of this disease retain their vitality for two years. My experiment shows that this period can be increased to at least three years.

It is to be hoped that Mr. Potter will continue his experiments, so that we may know definitely when ground may be considered free from this fungus. At present it is certain that it is unsafe to cultivate any cruciferous plant in soil that has been infested by it within three years, unless means have been taken to destroy it.

G. S. S.

Using Liquid manure.—Farmyard manure water, most valuable in the hands of the experienced, is productive of much mischief when used at random. Where so many err in giving too strong doses to plants while as yet the roots are few. Better apply it often and weak than seldom and too strong. Some things of course will stand and even require it far stronger than others, as, for instance, Vines when in full growth and carrying heavy crops of fruit. Chrysanthemums and Camellias also require stronger doses than the majority of plants, although mischief is sometimes

wrought even with these subjects by excessive feeding. I have found half liquid manure and half clear water to suit Vines, as a rule; but I always, after using it, admit sir as freely as possible during the day and leave a little on all night, increasing it somewhat as soon as safe the following morning, as sometimes the tender young leaves of Vines are affected by the ammonia when a strong sun shines upon the house unless this precaution is taken. Peaches bearing heavy crops of fruit may be safely treated similarly to Vines, so far as strength is concerned, and the same may be said of Figs. For Pines in pots, one part liquid to three parts pure water is a safe proportion. A half-and-half mixture is quite safe for Cucumbers and Melons. Here, again, the precaution as to admitting a little air at night, and still more early next morning is needed. Pot Strawberries in their early stages of growth, or until the fruit is set, should have it at the rate of one part liquid manure to three parts clear water, the strength being increased to equal proportions of each when the fruiting begins. The best results with such things as Eucharis, Gasparia, Allamanda, and similar stove subjects, like Pelargoniums and Fuchsias, are produced by adding liquid manure so as to render the mixture the colour of pale ale. Liquid manure is also useful in warding off insects in vineeries and Cucumber houses, but careful ventilation is necessary or much harm may follow.—J. C.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 15.

If anyone perchance had the idea that this meeting, the last of the present year, would not be of sufficient interest to induce him to attend, he will beyond any doubt have reason to regret his decision upon reading the report now published.

The display in the Drill Hall was a most brilliant one for the season of the year, making in a measure the gloomy appearance of the building somewhat brighter. If the glass upon the roof and the rest of the building were kept well cleaned the appearance would not be so bad, and again, in a structure such as this the interior decorations should be as light as possible, but this does not seem to have been considered.

Of Orchids there was a beautiful display, a finer probably never having been seen in December. Calanthes were present in abundance, and many of these of intensely rich colour, notably C. Veitchii splendens, whilst other kinds (hybrids, too) were most plentiful. The hybrid Cypripediums were to be seen in large numbers, and these comprised the best now in season. Several lovely

hybrids of the Lelias and Cattleyas were also shown in good form. There was also another fine example of Vanda cerasina with flowers of an intensely blue; another instance, it be noted, of a plant grown blue. The exhibits before the floral committee were of a varied description. Chrysanthemums being, as a matter of course, still in the majority. Of these there were a few promising novelties, as will be noted further on. The few exhibits of Carnations were a welcome change, amongst them being a few distinct novelties of promise. The hybrid Rhododendrons of the javanic-jasmiflorum section and allied forms were shown well, two certificates being awarded. Berried plants now in season were shown also, and that in good style, notably Skimmias and dwarf Oranges, both of which are pleasant changes to the oft-recurring forms of Solanum capicaistrum. Of Cyclamens there was one good collection, in which the English strain of seedlings was staged in conjunction with that from Germany, to the marked advantage of the former. Some well-grown and, for the season, well-flowered examples of Rose Enchantress were to be seen; as a winter variety this bids fair to be an acquisition. The winter-flowering Geraniums of the zonal section with large flowers made a brave display of brilliant colours; these, of course, came from Swan-

ley, from whence also came some beautifully grown plants of double Primulas. A finely grown circular group of Poinsettias with well-developed flower-heads was also staged, the plants being quite dwarf.

Of fruits, Apples and Pears were the most plentiful, and of these there were some most mortifying examples to be seen, highly coloured and well kept. The new Grapes Lady Hutt and Appleby Towers were both to be seen. The former, as a white variety for late keeping, will undoubtedly make its way, and the latter also a good keeper has much to recommend it. The mystery surrounding a so-called new Grape, shown under the name of Mrs. Wingfield, has now been satisfactorily solved: it is proved to be nothing more nor less than our old friend the Black Morocco, now rarely seen. The same Grape, coming from another source under the name of Muscat Hamburg, assisted in a measure to clear up this matter. In this case the name was palpably wrong, and as the Vines in both instances were obtained from the same source under the name of Muscat Hamburg, the mistake was easily corrected. It is satisfactory at the same time to note that no attempt had been made to put forward this old Grapo as a seedling of recent raising, its origin being freely given.

Orchid Committee.

First-class certificates were awarded to the following:—

LELIO-CATTLEYA ROSALIND (*L. Dominii* × *C. Trianae*).—This is a remarkable secondary hybrid, *C. Trianae* being the seed parent. It is intermediate in character between the two, the features of *C. Dowiana*, used in the production of *L. Dominii*, being very prominent. The sepals are white, flushed with rose; petals very broad, of fine form, and oblong; pale rose with a broad white margin; lip crimson-purple, margined with rose in front. The centre of the lip and throat are purple, suffused with yellow and lined with white. From Messrs. J. Veitch and Sons.

LELIA FREESTANS ALBA (Ashworth's var.).—This differs from the original plant of *L. p. alba* (previously certificate) in that the flower is pure white, the sepals and petals being remarkably fine. The flowers of the plant previously noted had a considerable amount of rose on the lip. From Mr. E. Ashworth.

Botanical certificates were given to Platycilnia uncinata, a distinct and pretty species with pale green flowers in the way of those of *P. filiformis*; Bulbophyllum auricomum, a sweet-scented variety with racemes of white flowers; Brassavola virescens, a pretty variety with large flowers, the sepals, petals, and lip white, with purple spots at the base. All these came from Sir T. Lawrence, Bart.

At the commencement of the business of this committee the report of the sub-committee, who had been deputed to meet the council in respect to the Orchid paintings referred to in our report when the matter was first brought forward, was read and adopted. It has now been handed back to the council, who apparently looked favourably upon it, and we hope shortly to be able to record that they have put the proposition into effect.

Messrs. J. Veitch and Sons were awarded a silver Flora medal for a beautifully arranged group, presented in it being *Laelio-Cattleya Semiramis* (*C. Gaskelliana* × *L. Perrieri*), sepals and petals deep rose, lip crimson-purple, petals white in the centre, the base of the throat lined with purple; *Epidendrum Wallisii-ciliare*, sepals and petals lemon-yellow, lip creamy white with purple markings in the centre; a fine plant of *L. C. Pallasii* with three flowers, several remarkable forms of *Cypripedium Lecanum*, *C. insigne* represented by two large made-up pots, *C. T. B. Haywood*, *C. Arthurianum*, *C. Euryades* (a cross between *C. Lecanum* and *C. Boissali*), the dorsal sepals white at the top, shading to pale green at the base, the whole being covered with large distinct spots. *C. Lytis* (*C. Spicerianum* × *C. canarium superbum*), very distinct, the dorsal sepal white, the lip yellow with purple markings.

at the top, dark brown at the base, the petals green, suffused with brown; a fine plant of *Cymbidium cyperifolium*, like a miniature form of *C. Traceyanum*, *Epidendrum elegans*, and a good form of *Odontoglossum Wilkesianum* with five flowers were also in this group.

Messrs. H. Low and Co. sent a small group, amongst which were some fine forms of *Cypripedium Lecanum*, *C. Harrisianum superbum*, *C. Lathamiatum*, various forms of *Lelia aracina*, *Cattleya Bowringiana*, *lilacina*, and a small plant of *Calanthe Veitchii alba*. Messrs. F. Sander and Co. sent a group, prominent in which were a fine specimen of *Dendrobium Johnsonii* with upwards of twenty spikes of flowers, *Dendrobium sanguinolentum* well flowered, *Cymbidium Winnianum*, *Trichopilia brevis*, *Lelia Gouldiana* with six spikes of flowers, *L. autumnalis alba*, *Phalaenopsis Arnoldiae*, various forms of *Cypripedium Lecanum* and other rare and interesting forms of Cyprpediums. Mr. J. Cypher, Cheltenham, sent a distinct *Zygopetalum* seedling in the way of *Z. Clayi*, but with a much larger lip.

Sir T. Lawrence, Burford Lodge, sent or of the finest groups we have ever seen at this season of the year. A gold medal was never more deservedly awarded. It consisted of about seventy plants of hybrid Calanthes, for which this collection is noted. Prominent were the dark *C. Veitchii superba*, and in striking contrast *C. V. alba*, both varieties remarkably well flowered. *C. burfordiana* is an excellent dark form, and *C. Victoria Regina* has pale rose flowers. In C. versicolor the sepals and petals are white, lip white, with rose-purple disc. Amongst Cyprpediums were a fine plant of *C. Lecanum giganteum* with four flowers, and several forms of *C. Lawrencei*, *C. C. Lawrencei*, and *C. Fascinator*. *C. Mattoxiotis* with four spikes of its delicate rose flowers; *Maxillaria lepidota* in grand specimen with over 100 flowers. *Dendrobium Wightianum*, a distinct variety with flowers in the way of those of *D. Jamesianum*, but much smaller; *Cynchos maculatum*, *Zygetepetrum Burkii*, and various rare hybrids and species of *Maddevaliassia* were also included. Mr. J. T. Bennett Poole was awarded a silver Flora medal for a group consisting of specimen plants well grown and flowered of *Calanthe Veitchii*, *C. vestita* *coerulea*, *C. v. lutes*, a grand plant of *Zygopetalum Mackayi* with five spikes of flowers, *Cypripedium Spicerianum*, good forms of *C. Lecanum*, and a good dark form of *Vanda cerulea*. Mr. J. Bradshaw, The Grange, Southgate, sent cut spikes of *Cymbidium Winnianum*, sepals and petals pale yellow, lip creamy white spotted with brown, several good forms of *Odontoglossum crispum*, *Lelia Gouldiana* with four flowers, *Cypripedium Charlesworthii*, *C. insigne*, and good forms of *C. Lecanum*. Mr. J. W. Temple, Groombridge, sent a fine plant of *Lelia anceps Amesiana*, sepals pale rose, petals pale rose shading to rose-purple at the tips, lip deep crimson-purple in front, the side lobes pale yellow, shading to yellow and lined with brown at the base. Mr. F. W. Moore, Glascow, sent *Maxillaria setigera*. Mr. T. Statter, Stand Hall, Manchester, sent *Cypripedium Lecanum superbum*, which resembles a good form of *C. nitens*; *C. Roberti* (*C. superbiplum* × *C. Lecanum*); *C. C. annae*. Major Mason, The Elms, Watwick, sent a singular group. It had been previously shown under the name of "Hardfield Hall" variety by Mr. E. Ashworth, who had a cut flower for comparison on the present occasion. It is a remarkable form, the dorsal sepal 2½ inches across, white at the tip, pale green at the base, heavily spotted with large dark brown spots. Mr. Ashworth also had *C. Lecanum giganteum* and *C. nitens magnificum*. Mr. G. S. Ball, Manchester, had *C. Lecanum magnificum*, one of the largest and finest-shaped flowers we have seen, and *C. Swainburniae magnificum*, a large heavily spotted form previously certificate. Baron Schroder sent cut flowers of *Lelia anceps Amesiana*, *L. anceps Dawsonii*, *L. alba*, *L. Gouldiana*, *Odontoglossum crispum Schrederianum*, ground colour white, heavily barred and spotted with reddish-brown; *Cypripedium insigne* Sanderson.

anum and various others. Dr. Holgkinson, Wilmslow, sent *Lelia autumnalis* atrorubens, L. a. alba, and a grand dark form of *L. aniceps*. Major Joyce sent two fine forms of *Dendrobium Johnsonii*. Mr. S. G. Lutwyche sent various Cypridiums, both hybrids and species.

Floral Committee.

Awards of merit were given to—

RHODODENDRON LITTLE BEAUTY (R. Monarch x R. malayanum).—This is quite distinct in that it possesses a dwarf habit, producing a profusion of its smaller trusses of flowers; the colour is a deep red which extends to the base of the tube, the trusses compact, bearing on an average eight flowers each. The foliage also is of a dark green colour. From Messrs. J. Veitch and Sons, Royal Exotic Nursery, Chelsea.

RHODODENDRON NOBIUS (R. Teysmanni x R. javanicum).—This is a grand hybrid with large trusses, bearing eleven flowers to the truss, the colour being a deep golden yellow with orange coloured anthers. The growth is robust, and the plant promises to make a fine specimen in the individual flower bell-shaped and all the more distinct. At the same time passes great distinction. From Messrs. J. Veitch and Sons.

CARYANTHUS JULIANA (perpetual flowering).—A very promising variety with dark crimson coloured flowers, darker than those of the old Clove, but in the same way and fully as large, with the great advantage of being non-bursting, no single pod showing any trace of this failing. The habit also is good. From Mr. Jas. Douglas, Great Bookham.

CARNATION W. ROBINSON (May).—An intensely bright scarlet variety of the true Tree section, with flowers of medium size (in this respect most useful in many ways); the pods show no symptoms of bursting, whilst the flowers are produced in profusion. From Messrs. Crane and Clarke, March, Cambridge.

CHIRYSANTHEMUM CHRISTMAS GOLD.—Japanese recovered; very much in the way of W. H. Lincoln, possibly deeper in colour and with longer florets. It is evidently a good keeping variety, the fully developed blooms being fresh to the base. From Mr. P. Ladds, Swanley.

Conspicuous among the many admirable things shown in this section was a group of plants of a new Rose, Enchantress, from Messrs. Wm. Paul and Son, Waltham Cross. This new acquisition, a hybrid between the China and Tea-scented Roses, is of a delicate bluish-white colour, and flowers very profusely. It is on a graceful habit and should prove a very useful thing for this season of the year (silver-flame medal). Messrs. W. Cuthbert and Son showed a group of Skimmias and Oranges. The latter consisted of dwarf, sturdy, and handsome plants, bearing a great quantity of fruit in various stages of ripeness. The Skimmias were very heavily laden with their trusses of brilliant red berries, and helped to form a very decorative and showy exhibit (silver Banksian medal). A nice group of cut Chrysanthemum blooms came from Messrs. Young and Dobinson, Stevenage, Herts (bronze Banksian medal). Messrs. H. Cannell and Sons put up a fine collection of zonal Pelargoniums, arranged in bunches on a groundwork of Maiden-hair Fern. The trusses were throughout of great size, and the quality and condition of the individual blooms all that could be desired. Some of the best varieties were A. F. Wotton, white, veined and splashed with bright salmon; St. Cecilia, rich salmon; Zenobia, rich rose; Countess of Morella, scarlet and white; John Ruskin, vivid scarlet; O. W. Holmes, pale salmon; Mrs. P. Routh, delicately shaded pink; Snowdrop, a very pure white; and King of Crimson, a superb flower. In the same group were also some very dwarf and freely-flowered Primulas (silver-gilt Banksian). A group of Cyclamen was shown by Messrs. Hugh Low and Co., Clapham. The plants were excellently grown, dwarf, and very strong. The foliage was beautiful, clean, and healthy, and of good substance. Most of the blooms were exceedingly beautiful both in colour and form. In the group was a plant of Bush Hill

Pioneer, a curious new variety, with fringe-like growths on the fronts of the petals (silver Banksian medal). A group of plants, chiefly small varieties suitable for table decoration, was staged by Mrs. Wingfield, Amphill (gardener, Mr. Empson). Small Crotons and Dracassas were well grown and admirably coloured. A pretty plant of *Lelia aniceps* formed a centre to the group (silver Banksian medal). A small group of decorative plants, including Dracassas, very coloured, came from Messrs. John Dracassas & Son, Royal Park Nurseries (bronze Banksian medal), Farr, Mr. A. P. Spring Grove House, Illeworth (gardener, Mr. Farr), came a very brilliant group of excellent Poinsettias (silver Flora). Several varieties of Chrysanthemums were shown by Mr. W. Wells, Redhill, Surrey. Golden Gate, Etoile de Lyon, Rose Wynne, Mrs. Fulkine, a good variety for vases; Le Moucheron, a handsome bronze-yellow, and Mrs. Bonjeau, a new golden yellow seedling, were among the best (bronze Banksian). Mr. Robert Owen, Maidenhead, also showed a few good varieties, including Owen's Superbum, a fine yellow Japanese with thick curled petals, and W. H. Divers, a graceful golden yellow. From Messrs. Veitch and Sons came a few varieties of their exquisite javanic-jasminiflorum hybrid Rhododendrons. Among them were R. nobilis, a splendid rich yellow flower, very large and shapely; Little Beauty, a small, but very brilliant crimson bloom; Taylori, bright rose pink; Princess Frederica, soft buff; Cloth of Gold, and Aphrodite, delicate flesh colour. A small collection of handsome and brilliantly coloured Anthuriums, chiefly seedlings, came from Sir Trevor Lawrence. The same exhibitor also showed some pretty and graceful varieties of Primalula obconica Improved (silver Flora medal).

Fruit Committee.

There was a representative lot of fruit before this committee, three good lots of hardy fruits being staged. Messrs. Rivers had a very fine collection, the fruit from Wantage being notable for its fine colour. Grapes were very good from various sources, and Tomatoes from Spring Grove and Frogmore excellent.

Messrs. Rivers staged over fifty dishes of superb Apples, a few of the dessert fruits being very fine indeed in colour and quality, but only fair to add that all these had been grown under glass. The Cox's Orange was a beautiful sample, though we do not advocate the culture of Apples under glass, such a fine exhibit proves what may be accomplished in places where these fruits do not thrive in the open. Such varieties as Waggoner, Buckingham, Lord Burghley, Peck's Pleasant, Pine Golden Pippin, St. Martin, a new variety given an award last meeting, Sutton Beauty, Golden Reinetta, with a good selection of Russets, formed the best of the dessert varieties. Among the cooking kinds, Lady Henniker, Mere de Minage, Sandringham, Emperor Alexander, Lane's Prince Albert, Cellini, Rymer, and Peasgood's Nonsuch were fine (silver Knightian medal). From Mr. Fife, gardener to Lord Wantage, Lockinge Park came some sixty dishes of great merit, but they lost much of their value by being crowded up in a small space. Many of the varieties were highly coloured, and though some, such as Worcester Pearmain, were out of season, the fruits were firm and good, showing the chalk these Apples were grown in is favourable to keeping. Some very fine Blenheim Oranges and Queen were noticeable. There were also good dishes of Warrington's King, quite red on one side, Alfriston, Lord Derby, Wellington, Jane's Prince Albert, Tower of Glamis, Cox's Pippin, and Stone's. Among dessert kinds the best were Scarlet Russet, Worcester Pearmain, Boston Russet, Cox's Orange, Duke of Devonshire and Claygate, all with good Easter Burreys and other Pears (silver Knightian medal). Messrs. Laing, of Forest Hill Nurseries, staged a smaller collection. Bismarck was excellent, also King of Tompkins Co., Waltham Abbey, Blenheim, Tibbett's Pearmain, Sandringham, Alfriston and

Flower of Kent. Of dessert kinds, Baumann's Reinetta, Cox's Orange, Ribston Pippin and several Russets were very fine (silver Banksian medal).

From Montmore Garden Mr. Smith sent three bunches of Grapes, the varieties being Lady Hutt (a white Grape of recent introduction) and Appleby Towers (a black variety from the same cross), remarkable for their size, shape and wood quality, certainly proving them to be splendid equisitiions as good late kinds, and well meriting the cultural award given. The other kind staged was sent as Black Muscat, but it was Morocco. This same variety was staged as a new Grape by Mr. Empson, Amphill House, Beds, under the name of Mrs. Wingfield. This had been shown on previous occasions, and fortunately the committee having Mr. Smith's Grapes, which came from the same source as Mr. Empson's, were able to identify them. Mr. Empson also sent a seedling Apple, but deficient in flavour. Some finely coloured Muscat Grapes came from Mr. Fyfo. Mr. Allan (gardener to Lord Suffield, Gunton Park, Norwich) sent a new Pear, President Barabe, of specially good quality. It is a medium-sized russet fruit, and certainly an acquisition to the December varieties. This Pear was recently favourably noticed in these pages by Mr. Crawford. An award of merit was carried by fourteen to five votes, but unfortunately it was upset by the rules of the society, by which six fruits must be sent, and there were only three. Doubtless we shall see the variety shown again, as it is well deserving of the award, there being a few good Peas at present on the market. Mr. Ross, Welford Park, Newbury, sent some Opal, a variety given an award of merit last December, and four others. Ross Pearmain, a very pretty fruit, is a seedling from Golden Reinetta. Elsie, a seedling from Peasgood's Nonsuch, is somewhat like its parent. Mrs. Phillimore is a seedling from Lord Burghley. Freedom, a seedling from Welford Park Nonsuch, is somewhat like Ribston. The committee wished to see several of these varieties earlier in the season next year. Mr. Farr, Spring Grove House Gardens, Ileworth, sent a basket of All the Year Round Tomato, nice fruits of good colour, receiving a cultural award. From the Royal Gardens, Frogmore, Mr. Thomas sent excellent Frogmore Selected Tomatoes, good first fruits and of excellent quality. From Mr. Empson came large Mammoth Capsicum and Tomato Young's Eclipse, very poor in comparison with the above varieties. Mr. A. Dean, Kingston, sent a useful box for storing seed Potatoes as used by the Surrey County Council, cheap and useful for the purpose. Messrs. Libby and Fleming, Wood Street, E. C., sent some paper plates and dishes, very light and suitable for exhibiting fruit.

For the Veitch prizes for flavour there was no lack of competition, there being sixteen lots of Pears and fourteen of Apples. For Pears Mr. Powell, Ilfracombe, Hants, and Gardens, Dene, was first with his Winter Nelis; Mr. Cotterill, Tonbridge, second with Glou Morcean, Nouvelle Fribourg being very close. Josephine de Malines, a February or even later fruit, was staged by several growers. The shows we cannot rely upon the late kinds for late use. Bergamota d'Esperen was also staged. Mr. King, Gatton Park Gardens, Reigate, was first for Apples, staging a fine dish of Cox's Orange. Mr. Powell was second with Blenheim Orange. Barnack Beauty, McLean's Favourite, Mannington Pearmain, Lady Henniker, and Reinetta du Canada were also shown.

NATIONAL CHRYSANTHEMUM SOCIETY.

A busy meeting of the general committee was held at Anderton's Hotel, Fleet Street, on Monday evening last, when Mr. B. Wynne presided. The proceedings, although of unusual length, related in a large measure to details concerning the shows for 1897, and before these were entered upon Mr. Harman-Payne read an interesting report of the visit of the N.C.S. deputation to the Ghent and Paris Chrysanthemum exhibitions last month.

It is too lengthy for insertion here, but it may be mentioned that, on the motion of Mr. R. Ballantine, the report of the deputation will be printed in the society's schedule for next year.

An alteration has been made in the meetings of the floral committee. In future they will be held at 3 o'clock in the afternoon instead of at an earlier hour, as hitherto, and will be fixed for Mondays. The society's show for 1897 will be held at the Royal Aquarium as before, and on the following dates:—September 7, 8 and 9, October 12, 13 and 14, November 9, 10 and 11, December 7, 8 and 9. Owing to some differences of opinion as to certain varieties being admitted into the incurved section, a sub-committee was appointed to discuss and report on the question of classification of certain varieties of doubtful character. A representative number of growers will form this committee, consisting of Messrs. T. Bevan, Geo. Gordon, H. J. Jones, G. Stevens, E. Beckett, J. Lyne, J. Wright, J. W. Moorman, C. Gibson, V. H. Lees, W. Mease, G. Witty, A. Rowbottom, F. Langdon, R. Dean, and Harman Payne.

It was resolved that the annual meeting of members should take place on Monday, February 29. Gold medals, accompanied with testimonials, were proposed to be presented to the secretary and foreign secretary in recognition of their services to the society for some years past.

New members, bringing the total up to upwards of 200 for the year, were elected, and the Leytonstone Society was affiliated.

NOTES OF THE WEEK.

Pelargonium New Life is the name of a very curious mixture of white and scarlet, and it is difficult to say which of the two predominates. It is a curiosity pure and simple.

Spiraea Thunbergi.—Some plants of this little shrub brought out in the greenhouse are now smothered with pure white blossoms. The latter are very small individually and appear from the axillary buds on twiggy branches.

Pelargonium A. J. Wotten.—This is a very fine kind for winter bloom, the flowers, as also the trusses, being of large size. The colour is a clear salmon-pink, with occasional blotches of white suffused with the primary shade.

Iris fimbriata.—Some examples of this hand-some species are now producing their pretty fringed flowers in the succulent house at Kew. When freely flowered it is among the most useful and striking of greenhouse plants, and as such well worth attention.

Malmesbury Carnation Princess of Wales.—We have received a box of flowers of this from Mr. Davies, gardener at Nidz Hall Gardens, Ripley, Yorks. They are very finely grown and handsome, with the usual size of opulent fatness of the Malmesbury race.

Iris alata (*Scorpiun Iris*).—The flowers of this species are deep blue-purple, and for the cold house would form a good companion to the more frail *I. Vartanii*. The plant is of easy culture. A snug nook in the rock garden sheltered from winds will suit it, or it may be grown in shallow pans with the frame.

Saintpaulia ionantha rubra.—This is a form with red-purple flowers and is equally as free-flowering as the other bearing the varietal name *coccinea*; has flowers of an exquisite sky-blue shade charming in the extreme. The habit in each case is a counterpart of that of the type. Freely-flowered examples of each were shown by Meares. Cannell on Tuesday at Westminster.

Iris Vartanii.—A frail little bulbous species with flowers a pale azure-blue, and certainly interesting from the fact that its natural flowering time is November and December. A small pan with several flowers expanded was sent from Tottenham to the Drill Hall on Tuesday. This

little species is not more than 6 inches high. It is found wild in the districts about Nazareth.

Echeairis grandiflora Moorei.—This is a very pure and chaste form, though much less distinct from the typical species in its general aspect than E. Stevensi or E. Mastersi; indeed, it may be described as a small form of the type, the flowers being smaller and the foliage less robust and vigorous. Much of this, however, may be due to the individual size and vigour of the bulbs.

Helleborus niger maximus.—A fine clump of this well-known form crowded with flower-buds was shown by Mr. Ware at the Drill Hall on Tuesday last. It is doubtless among the most worthy occupants of the hardy garden at this season of the year, and where large patches exist they are valuable from a cut flower point of view, and, protected by a sheet of glass, a handlight or frame, their beauty remains a long time in perfection.

Rose Enchantress.—A group of this winter-flowering kind from Messrs. Paul was much admired on Tuesday at the last meeting of the R.H.S. for this year. The flowers are of a creamy shade with a bluish sheen internally. The variety is a hybrid between the China and Tea-scented forms, but appears to possess no fragrance. The footstalk is rather weak and causes all the blooms to droop over, which does not improve their appearance, while the flowers are produced most freely.

Thysanocanthus rutilians.—A score of years ago the drooping inflorescences of this plant were more frequent in the warm greenhouse at the end of the year than is now the case, the plant having to give place in many instances to subjects more generally useful. Yet, notwithstanding it has been neglected of late, the species is worth growing for the brightness of its drooping racemes. It is not adapted for cutting, therefore in many gardens it is never seen, while in others it plays quite an unimportant part.

Narcissus Corbularia albus.—Some well-filled pans of this dainty little gem were sent to the Drill Hall on Tuesday last from Tottenham. The pure white of the blossoms, of which there were at least a score in each pan, is very charming, though the application of too much warmth, so evident in the weakened stems, was doubtless to blame for their drooping so much. A cold frame or house is ample for the protection of its blossoms from storms and the like, as the plant of itself is perfectly hardy even with the thermometer at zero.

White French Willow (*Epilobium angustifolium*).—Many people are, with good reason, shy of planting the French Willows because they run so strongly at the root. In good garden ground they certainly do ramble over-much; their growth is too strong and tall, and the flower-spikes, though always graceful, have the individual blooms too widely spaced to make a good garden flower. But grown in poor, sandy soil its height is only 3 feet to 4 feet, the spike is condensed to an excellent and well-filled shape, and the leaves are of a pale golden green that goes well with the milk-white flower.—G. J.

Luculia gratissima.—Among the whole list of greenhouse shrubs flowering at this season of the year there is nothing to equal this. Indeed, in its every aspect it is a noble plant when in bloom, not the least attractive feature of the plant being the delightful fragrance of the flowers. Just now a very fine plant may be seen at Kew in the No. 4 range bearing something like thirty of its handsome heads of pink blossoms, the largest being equal to a good-sized head of Hydrangea. It is to be regretted that this handsome shrub is not more generally grown, particularly in quite cool structures, such as suit the Camellia, the temperature being ample to keep this fine Himalayan subject in perfect health and vigour.

Begonia Gloire de Lorraine.—For blooming at mid-winter this is a most valuable kind, the flowers coming in such profusion as to almost hide the foliage. It may not be generally known how

well suited this variety is for suspending quite near the glass in the warm greenhouse. In this position, aided by the increased light and warmth, the dainty sprays of blossoms provide a display that is quite exceptional among greenhouse plants in winter-time. There are now in the Begonia house at Kew some splendidly flowered examples of this plant, loaded, so to speak, with the exquisite rose pink blossoms, which, spreading horizontally and then slightly drooping, render it a most welcome plant at this dull time of year. A most noticeable feature is the small pots in which the plants are growing, these being less than 6 inches across and not so deep as the pots of this size usually are. Even in these the suspended examples in each case were a mass of bloom about 15 inches across.

OBITUARY.

M. CHARLES PROSPER VAN GEERT.

We regret to have to announce the death, on December 12, in his eightieth year, of this highly esteemed Belgian nurseryman. Last year he had a paralytic stroke from which he seems never to have recovered. M. Van Geert was a Chevalier de l'Ordre de Leopold and a member of council of the leading horticultural societies of Belgium.

Gardeners' Royal Benevolent Institution.—Lord Rothchild has fixed May 26 next for the fifty-eighth anniversary festival dinner of this institution at the Hotel Metropole, and at which his lordship will preside.

Silver wedding celebration.—At the Drill Hall, Wordsley, on Tuesday evening, the silver wedding of Mr. and Mrs. Edward Webb, Stourbridge, was celebrated. The employés of the firm presented the happy pair with a massive and costly silver bowl and a pair of claret jugs, the whole forming a noble and beautiful set.

Names wanted.—If the names referred to by M. Correvon (p. 482) are those of woods, possibly they may be found in the "Reports of the Juries of the Exhibition of 1851," wherein Professor Solly devotes about 150 pages to his report upon the woods of the world and the trees which produce them. If Karri is the same as Karri, it is *Erythrina abyssinica*. Kheyrey is the Arabic name for the Wallflower. If Tanak is an abbreviation of Tanakaha, it is the Tasmanian name for one of the Taxads—*Phyllocladus rhomboidalis*—which is sometimes grown in greenhouses in England.—W. T.

The weather in West Herts.—Until the 14th the weather had been mild, but since then both the day and night temperatures have been low, and during the night of the 15th the exposed thermometer showed 13° of frost. Both at 1 foot and 2 feet deep the temperature of the soil is at the present time about seasonable. Rain has fallen on all but two days this month, the total measurement being very nearly 3 inches, or half an inch in excess of the average for the whole month. Since the month began sunshine has been recorded on only five days.—E. M., Berkhamsted.

Desert Apples.—Will "J. C." kindly send name and address. It is impossible to recommend any Apples unless we know for what part of the country they are required.

Names of fruit.—H. Greenwood.—1, Apple Boston Russet; 2, Wadlur Pippin.

Names of plants.—*Straberry*.—1, Ligustrum lucidum var. Albidum; 2, L. glauca; 3, *Gaultheria shallon*; 4, *Pernettya mucronata*; 5, *Iris furcata* variegata; 6, *Phillyrea angustifolia*.—T. T.—1, send better specimen; 2, *Caldinium esculentum*; 3, *Ruscus arborescens*.—W. R.—1, *Cattleya guttata* leopardina; 2, *Comaridium* (*Cymbidium*) ochroleucum.

No. 1310. SATURDAY, December 26, 1896. Vol. L.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

FLOWER GARDEN.

THE WINTER GARDEN.

THE gratitude of all, whose lives are made happier by the beauty of flowers, is due to Mr. Edward H. Woodall for his charming paper on the winter garden. No man writes with a more comprehensive knowledge, or a more reverent appreciation of his subject; and he communicates the results, which are given to his love and to his humility, with the enthusiasm which inspires, and the information which instructs us to follow in his steps. He sets before us an object lesson, a picture which all must admire and desire to copy, and which a very large majority of gardeners may copy, if they will. They may find, he proves to us, a sunny sheltered nook, in which Flora shall be crowned with her Christmas Roses, and shall

Dress, as the nobles dress,
In cloth of silver and gold,

in royal crimson (Pyracantha), imperial purple (Veronica), or clad in robes of virgin white (Eupatorium). Here she listens with a serene disdain to the howling winds outside, even as some merry little maiden, concealed in the shrubberies at holiday time, peeps through her bower at the seekers, who seek in vain, and exults in their disappointment with a joy, which is almost more than she can bear.

Mr. Woodall is a florist without a fad. He believes in the rewards of observation and service; he has received them, as it has been said; but he has no faith in the coquettishness of restraint. He would not say of a Rhododendron, as I have heard it said, that it was a beastly fraud, because it declined to throw up huge trusses of bloom with its roots in a chalk soil. He would no more think of planting a Rhododendron in chalk than of dibbling Orchids into a ploughed field of clay, or forcing Lilies of the valley around the crater of Vesuvius. You could not induce him by the screws of the Inquisition or the smiles of Venus to trace with sharp shears on a Yew fence the lineaments of a man with a gigantic nose of the Roman order, surmounted by a head-dress about the size of a small sauce turban, and representing

The hero of a hundred fights,
Who never lost an English gun,

but in the rapid evolutions of battle must frequently have lost his hat. Therefore Mr. Woodall gives us only that which is natural, possible and real. He would not have us say to Nature, "Permit me, my dear madam, to suggest some improvements, which you would probably have made with my advantages of experience and taste;" but he asks for her approbation or criticism, however severe, of his use and arrangement of her bounteous, beautiful gifts. And so, in this winter garden, he does not tell us to fill our beds with tiny

evergreens, as though we had just set up in the nursery business, or were laying out cemeteries for tombs and tender inscriptions over the bodies of our childhood's and boyhood's pets—the white mouse, the Java sparrow, the piping bullfinch, the bright-eyed squirrel, the magpie, the jackdaw and the jay; with a miniature crematorium, in which dolls of wax, once so winsome with their golden hair, and their blue eyes and their smart frocks, and their exquisite silk socks and red leather shoes, but now sans eyes, sans ears, sans everything except the wax, may be expeditiously reduced to ashes.

Mr. Woodall is not too sentimental. He is "tender and true," as Douglas, in his affection, devoted in his loyalty, and enthusiastic in his admiration, but he does not gush. He does not raise such clouds of incense that you cannot see the altar. He simply says, "I have something beautiful to show you, but if you cannot discern its beauty, no words of mine can make blind eyes to see." And when he takes you into his garden he does not introduce you to fantastic females and poets, much too bright and good for human nature's daily food, who bore you with allegories, rhapsodies, and hifalutin. His idea, I fancy, of a goddess in the garden would be a bright smiling damsel or dame, ruddy, like David, and of a fair countenance, with a despicable hat, but delightful boots, with a short skirt, but a long apron, with huge pockets filled with bast and wire and scissors and knives, carrying in her right hand a well-worn spade, and in her left a basket or "skip" containing trowel, saw, &c.

Mr. Woodall, like a wise gardener and a true gentleman, is unselfish. He tells you what he knows, and he wants you not only to know, but practically to enjoy your knowledge. Some fifty years ago I had a dear old gardener who came to me from the county of York, and who was as quick in acquiring as he was slow in communicating information. I had a clerical brother in-law some dozen miles away who was a very keen and formidable opponent at our local exhibitions, and as the time of competition drew nigh, and we were exulting in our possession of some new varieties, in the success of some improvement in manuring, or pruning, or training, he would whisper to me from time to time, in tones of awful warning, "You won't tell our relation." And never shall I forget his countenance when another potent adversary, strolling with me through the houses, turned to him and asked him to explain his system of growing Calceolarias.

A moment o'er his face
A tablet of utterable thought was traced.

"Vox faecibus hasit." Then he gathered himself together and said slowly, "It depends," and went away to his work. So would I say to those who have read Mr. Woodall's paper, if you would have a bright little December garden,

To twinkle in the wintry moon
And cheer the ungenial day
"It depends," not on him, but on you.

S. REYNOLDS-HOLE.
The Deanery, Rochester.

CHRISTMAS ROSES.

THE most seasonable hardy flower just now is doubtless the Christmas Rose, and not only seasonable, but of great value where the plants are really grown successfully. That this most desirable ultimate is not more frequently attained is no doubt due to a variety of causes, some of these latter quite within the reach of the cultivator, while others, alas, and this very frequently, are quite outside his grasp. From some years of close practical experience among these plants, combined with a study of their habits and mode of rooting, I am inclined to the belief that the most satisfactory condition of many plants we see from time to time is largely due to the season of the year at which they are divided and transplanted. I take it that it may be adopted as a good rule with any subject producing either a limited supply of roots, or producing such roots at distinctly intervals, that if the best results are expected, there should be forthcoming by adopting a method in transplanting them as to retain the greatest bulk of their roots intact. If any given subject can be planted immediately prior to the new main roots of the year being put forth, it follows that the vigour and force of such roots go to the proper maintenance of the plant. The period of this new root-formation in the case of these Christmas Roses is late summer or early autumn, the exact date depending entirely upon the amount of heat and moisture present or absent during the preceding months. Generally, however, it may be accepted that the second or third week of August is much the best of the year for taking this work in hand, for it is about this time that the large fleshy roots protrude from the underside of the restricted rhizomes of which the plant is composed. Let alone, these roots in a year or two will descend to nearly or quite 3 feet deep, and who shall gainsay the value of a full complement of such roots to the plant in question. At p. 434 the advice tendered by "A. D." "as the best time for this is usually in February so soon as the flowers give over." At such a time, however, it is an added possibility "even with the greatest care to preserve all the fleshy roots" which your correspondent regards as essential to the future prosperity of the plant. Indeed, the preserving of these very roots is of the greatest importance, and it is by following the advice tendered by "A. D." that we often see these very plants in a debilitated state instead of vigorous and luxuriant. Some may think that the disturbing of these plants, as I have now suggested, would be harmful to the coming flowers, but this is not in the least the case. On the contrary, it is by the very presence of these new main roots that the plant is fortified and that it will produce its blossoms of equal worth and in equal proportion. Planting in February and March is in a large degree responsible for the complete collapse of the newly-made leaves during a dry May and June, simply because the roots that should sustain under these trying conditions are either wanting altogether or out of all proportion to the requirements of the plant at the time.

The niger section of the genus Hellebore is not characterised by the production of roots during the greater part of the growing season, as in the case of Pyrethrums, Michaelmas Daisies, and the like; if it were, the plants would be established with as perfect ease as those named. There are, however, what may be termed two sets of roots produced on both, the fleshy or main roots, which issue about August, and the twiggy or fibrous roots that furnish the main roots, and that are put forth, I believe simultaneously with the new foliage when flowering is complete. Almost precisely the same thing occurs, only in varying degrees, with other genera, or at least some portion of them, notably, however, in Peonies, Flag Irises, i.e., I. germanica, so-called, Adonis, &c., the last-named being quite easy to establish in many gardens by adopting the same rule. I feel sure that those gardeners who have experienced difficulty with

the Christmas Rose would in a great measure overcome that difficulty by the addition of early autumn planting. Those who require pots of such things for the greenhouse cannot do better than lift the plants at the time stated, and having given a thorough watering, stand the pots behind a sheet of wall for a few days. Plants thus treated suffer little, and may be returned to the border again with but little loss. A deep soil, fairly rich, but kept in very rank manures always far from the roots, and a sharp variety are conditions best suited to the growth of these valuable plants, bearing in mind always the need for doing them thoroughly well, since well planted and established they are safe for dozen years without disturbance, and much to the advantage of the plants themselves. Such examples are then handsome even in their tufts of vigorous sometimes shining leaves, while their flowers may be gathered almost by the bushel. A sharp knife is the least desirable implement to use in dividing these plants, and not unfrequently cuts more than it is intended at the start. A less dangerous and more useful tool is the prong of a small handfork inserted in the firm part of the crown sideways, and if the latter be large, then two such forks should be used back to back. By gently wrenching in an outward direction the trunk is severed even with the grain and with scarcely the loss, so to speak, of a single root. Finally, one word of caution. Never transplant very large examples of this fine perennial intact with the hope of immediate effect.

E. H. JENKINS.

Phormiums.—With reference to the inquiry of Mr. Prinsep in THE GARDEN (p. 468), I may inform him that I have the variety from Powerscourt growing here, and it has stood 31° and 33° of frost with very little injury. It was very much crippled in the severe February of 1895 when our total of frost for that month was 33°. The plants have now quite recovered and are 6 feet high. Besides being more erect, I think this variety more glaucous than the type. P. Colensoi and P. Veitchii are also quite hardy here, while P. tenuissima is very tender, and I have given up trying to grow it.—F. BEDFORD, *Swansea House*.

Carnation Mill. Carle.—There are very few white perpetual flowering Carnations that can equal this for freedom in those gardens where it is suited. The variety is somewhat slow; however, in building up a good plant, but when this is done its perpetual character is seen to advantage. Frequently the young plants of eight or ten months old at this time of year produce very thin, almost transparent, petals that cause many to discard it. These same plants, however, carefully tended, often yield a capital lot of bloom in early summer long before the border kinds can be obtained, and for this reason it is valued by many growers of these ever-wearing flowers.

Japanese Anemones.—It would be interesting to have fuller particulars respecting the seedlings of *Anemone japonica* said to have been raised in Prince's Street Gardens, Edinburgh. Emile Lemoine states in THE GARDEN of March 30, 1895, that for a space of fifty years *A. japonica* had shown itself only in Europe, and also questions the probability of Whirlwind being a seedling. It seems strange that a plant, which authorities tell us seldom produces seed, even in its native country, should in the first recorded instance produce seedlings of such variety. For two years I have endeavoured to get seed from a *A. j. rosea* by fertilising with pollen of a *A. j. rosea*, but without success. The reverse cross also failed.—T. SCOTT, *Ashford*.

Yellow Carnations.—“E. B.” (p. 467) states that he has never yet found a yellow Carnation at once perfectly hardy and free. He surely cannot have tried any of the newer varieties, or he would never venture such a statement. Take the variety “E. B.” mentioned as not looking at home side by side with a yellow, viz., Ketton Rose. This variety cannot compare either in vigour or freedom of bloom with any of the following

yellow, viz., Miss Audrey Campbell, Duke of Orleans, Corunna and J. D. Pawle. I grew all these varieties side by side in the open air during the severe winter of 1894-5, and whereas I lost quite 50 per cent. of Ketton Rose, I did not lose a single plant of the four varieties of yellow. If “E. B.” has grown only Germania, Pride of Penshurst, &c., let him try the four varieties named, and I am quite sure he will have no cause to complain of them in any way.—G. W. L.

Herbaceous Plants.—In northern gardens generally the most striking features in the grounds during summer are the herbaceous plants, and where there is abundant space there is little fear of over-doing this important branch of gardening. At one time it was a practice too common to fill every available space with bedding plants; much sacrifice of borders and valuable ground was made to carry out the fanciful tastes which predominated for some years and which in many cases militated against other branches on the place. Both vegetables and Florists' flowers suffered much from the bedding mania. But go where one will now, matters have changed to the old style of gardening so fashionable in our early days, when a place with a good collection of herbaceous plants on it was widely known. At our leading exhibitions the most attractive exhibits are shown generally by the nursery and florist trade. At Glasgow, Edinburgh, Perth, Dundee, and indeed at nearly all the minor exhibitions grand displays have been made. Carnations, Dahlias, Roses, Gladioli, herbaceous plants, alpines, &c., filled the greater part of an immense tent at Dundee last autumn.—M. TEMPLE, *Coronation Lodge*.

FLOWER GARDEN NOTES.

RETROSPECT.—One of the first things that must undoubtedly be acknowledged when indulging in a short retrospect on the season of 1896 is the value of hardy plants, especially if our lot happens to cast where we are dealing with a light and shallow soil. True, there is a way of dealing with bedding plants that enables a good display to be made under such conditions, but, given a hot dry summer, it incurs constant watering and a big item in shape of labour, and even then a very fleeting return; whereas the majority of perennials will come safely through without any extra attention, save what is entailed by careful planting and a good surface mulching. In looking back on 1896, and with a reference to the few notes taken from time to time, I find old favourites holding their own well, and proving in their respective seasons about the most useful things held. Daffodils were more than ever in request, and it was difficult at times to supply the demand for cutting and yet preserve in the demand for a fresh show. Oballvaris, Horsemil, Barricouleur and poetical ornamentals were noted as specially useful. Let me just remind those who are likely to want these flowers in quantity for Easter that this festival is rather late in 1897, towards the end of April. Referring to a flower, contemporary with the celebrated Daffodil, the Snowdrop, I had a difficulty in doing much with this on our light, sandy soil until it was shifted to a north-west border in the lower part of the garden, and here among the Polyanthus did it grow strong and well. From a purely cut-flower stand-point the crimson and purple shades in Polyanthus were most serviceable, presumably because with late Daffodils to hand the colour furnished by these was not required in the more formal-looking flowers. Pyrethrums were noted as very good, but more quickly over than usual, and no supply of water being to hand, new growth was not made sufficiently early to ensure a second flowering. However, despite the rather unfavourable season, the verdict on the Pyrethrum would be that of an invaluable early flowering plant. Antirrhinums really proved in the hot, dry weather and gave an early and long-sustained display. I am not much in love with the very dwarf section except for special bedding purposes. Where it is found advisable to grow as much as possible alike for

the flower basket and the open garden, the stronger growers are much the more serviceable, and a prompt removal of the central spike is followed by the very rapid development of side shoots and a dense head of bloom. Phloxes (both the early and late-flowering sections) were remarkably fine, and they may safely be recommended to the notice of those seeking material for a bold and prominent bed. One little point in connection with the duration of the flower-spikes may be noted—the newer varieties throw up such a very dense head, that the lower pins are apt to be hindered in their expansion if those immediately above them are not picked off when decay sets in. This seems a small matter, but it means the preservation of the spike practically intact for another week or ten days. Neither Peonies nor Spiraea were quite a success; at least the former, although exceptionally brilliant, had a very short season, and a lot of the lower part of the spikes of Spiraea did not expand. Exceptions to the failure were S. filipendula fl. pl., that does better in a dry than a wet summer, and S. astilbeoides, that I have in company with a colony of Polyanthus Roses on a north-west border. On a similar site I am planting a batch of Montbretias, with the idea of getting a supply for the flower basket after those in a sunny position are over. Carnations were a decided success, the supply of flower remarkably good and long-lasting; the weather, too, was favourable for the propagating, the layering was only just finished when the rains came, and the showery time through the greater part of August and September gave early and good plants. Sunflowers were very good, lacking in vigour so far as growth was concerned where old clumps had been left undisturbed, but about the usual height with young, carefully planted staff. Those who have not yet acquired *H. giganteus* stratus should make a note of the name. It is an absolutely unique Sunflower in the matter of colour, the kind of flower that is picked out at once from among its fellows in the open, and may safely be relied on to produce a sensation when used in quantity for dinner-table decoration. I noted the Starworts more closely this year, and came to the conclusion that the division into sections for successional flowering might be extended as follows: The stiff and formal sorts for lines or bold masses, the graceful feathered sorts mainly for the flower basket, and the big showy varieties as occasional clumps in front and between flowering shrubs. It is the two latter that are most in favour here, and I adhere to an opinion often expressed, that a garden may as well be without Roses as Starworts, especially the late autumn-flowering sorts. Cordifolius, Diana, viminea, Cassiope, and Tradescantia are indispensable.

MULCHING BORDERS.—I have taken advantage of the frosty days to run a specially prepared mulch on the herbaceous borders. I write specially prepared because there is a wide difference between putting on a lot of cakes through which young growth has a difficulty in forcing its way and a mulch at once a protection, a stimulant, and that is no hindrance to growth. I mix together some time during the summer equal parts of stable manure and Beech leaves, toss on the snow a few cans of liquid drained from the cow-yard, and give it one or two turnings as may require. It breaks down at this season, capillary sheet stuff, free enough to run through a fine-tined fork and just adapted for the purpose. Anything only wanting a little protection and not a stimulant, as clumps of *Nicotiana affinis*, Galtonia candicans and stools of heraceous Fuchsias, get a covering of the foliage of the deciduous Cypress, a matting material I can thoroughly recommend to all those possessing trees of this Taxodium. It is soft, light, not liable to be disturbed by rough winds, and it is only a very exceptional frost, or rather a succession of the same, that will penetrate a 2-inch mulch of this foliage. I notice in connection with tobacco that a daily paper has a special note to the effect that it is a perennial. So far as *Nicotiana affinis* is concerned, this is no news to English gardeners; it has occupied with me the same site, duly making

its reappearance every spring for many seasons. Given exposed situations, a mulch is, however, necessary if the frost is likely to penetrate to the fleshy roots that remain in the ground.

Clarendon.

E. BURRELL.

GARDENING BESIDE LAKE LEMAN.

A VISIT to the gardens on the margin of Lake Léman is always instructive, but this year they present a double amount of attraction. With the exception of the right shore at the lower end of the lake between Clarence and Villeneuve, where all the intermediate localities, such as Montreux and Terrier, are enclosed low down in their sheltered nest from the northern blasts and receive the full benefit from the winter sun, the winter here is rather severe for months together. A visitor to Geneva in December would, however, be surprised to see trees and shrubs there with standing low degrees of temperature which would appear excessive if they were not in reality tempered by the vicinity of the lake, notwithstanding its altitude of 373 metres above the level of the sea. There may be seen thriving not only Euonymuses and Japanese Privets, Cypressus torulosa, Mimosa Julibrissin, Laurus nobilis, Lagerstroemia indica, &c., but even the Fig tree ripening its fruit at an altitude of 500 metres. This lake climate, so singular, the nature of which has been well studied long since and which lies in mildness with the climate of the Mediterranean parts of Provence, exhibits its highest forms of expression at the lakes of Northern Italy (Marecchia, Cuo Ova, Garda, &c.). This year (1896) the interest in horticulture has been highly stimulated by the Swiss National Exhibition. The remarkable vitality of the Swiss in various branches of industry has, in the case of horticulture, manifested itself in the permanent and occasional exhibitions which have been already described in this journal, but to which I may again refer here with advantage. Thus, since last spring up to the present time, the collections of trees and shrubs shown by MM. Frobel, of Zurich and Thibault-Lyand, of Chêne, near Geneva, and the choice specimens of conifers and various other trees exhibited by M. Boccard, of Geneva, have become very much more effective through increased vigour of growth. I noted amongst the exhibits of M. Frobel, *Hedysarum multifidum*, which produces continuously its violet flower clusters; *Amorpha canescens*, recently figured in the *Revue Horticole*; *Cytisus shipkensis*, a dwarf species, with numerous white flowers; a *Sorbus* (of the *Aria* section, but with entirely white flowers), a superb species, as yet undetermined; *Alantus pendulifolia*, with very long leaves on a rachis over 3 feet in length; *Daphniphyllum glaucescens*, a strong specimen; *Cercocarpus parviflorus*, *Chamaedaphne calycata*, *Securigera ramiflora*, *Ceanothus Fendleri*, *Prunus Jaquemontii*, *Rosa nutkana*, R. *Watsoniana*, R. *Vichaiasana*, R. *nitida*, *Spiraea Menziesii*, *Baccharis salicifolia*, *Aster tridentata*, and *Scrophularia squarrosula*. I also noticed grafted standards of *Calochaphis vulgaris* (grafted on *Caragana*) and *Lonicera Alnifolia* (grafted on *L. tatarica*), *Potentilla Salicifolia*, and the collection of hybrids from Clematis Pitcheri and C. coccinea, &c. Amongst the exhibits of M. Thibault were *Colletia serratifolia* (?) *Clematites Gipsy Queen*, *Alexandra*, *Negrissa* (*Viticella*), Mme. Granger, *Viticella grandiflora*, Mme. Baron-Veillard, &c.

Aquatic plants are popular at Geneva. The *Nymphaeas*, which M. Lagrange, of Oullins, has helped to distribute so widely in the Lyons district and elsewhere, and of which M. Latour-Martiac is at present a most distinguished hybridiser and raiser, were well represented at the exhibition, where I saw in splendid flower *Nymphaea Marliacea albidia*, N. *Laydekeri rosea*, alba rosea (of Caen), *odorata sulphurea*, *Marliacea Chromatella candida*, *alba pinnatifida*, *pygmaea alba*, *Helvolia*, *odorata rubra*, *Kalmiana tuberosa*, and *exquisitea*. M. Michel contributed his share of rare plants: *Lilium Henryi*, from China, a tall

Lily with decurved flowers, resembling those of a pale orange-coloured *L. bulbiferum*; *Albaca Nelsoni*, from Natal, with large white flowers marked with green lines; *Crinum Powelli*, a hybrid (hardy, with the protection of a mulching of leaves) between *C. longiflorum* and *C. Moorei*, and producing numerous pink funnel-shaped flowers (sometimes sixteen on one stem); a collection of charming *Gladioli*, hybride of *G. Lemonii*, amongst which were Mme. Desbordes-Valmire, white and pink, spotted with scarlet; *Schizophragma*, deep violet-blue; *Augusta Vacqueriae*, light sulphur colour, spotted with crimson and yellow; *Général de Nansouty*, dark violet speckled; *Emile Augier*, sulphur, white and blue; *J. Moisan*, lilac-blue, with a large reddish violet spot; *J. Foussat*, pink, with a large reddish violet spot. The floriferous *Canna*s of the Crozey series were splendid, and amongst the novelties of M. Vaucher, director of the Ecole d'Horticulture at Châlaine, near Geneva, were some fine plants which will soon be put into commerce. M. Vaucher also exhibited an enormous clump of *Canna*s, composed of 200 plants of the variety *Reine Charlotte*.

Amongst the good perennial plants which I noted in passing—some of them long known, but others seldom grown at present, others rarer or of more recent introduction—I must specially mention *Asclepias tuberosa*, which is pretty commonly grown in this district, and *A. incarnata*; *Nepea grandiflora*, of vigorous growth and suitable for rockwork; *Monarda didyma*, *Prunellia grandiflora*, and *Sisyrinchium bermudianum*, well adapted for shaded positions on rockwork, &c.

In the alpine garden designed by M. Allemand and furnished with plants by M. Corsevan—a garden which has been the admiration of all visitors—I was agreeably surprised to find a second season of charming bloom. The *Edelweiss* (*Gnaphalium Leontopodium*) was there in all its silvery whiteness; the *Carlina Thistle* (*Carlina acaulis*) expanded their glistening rosaries; the *Aconites* (*Aconitum lycoctonum* and *A. Anthora*) held up to view their yellow panicles; the Sun flowers of the Alps (*Hordeum*, *Arenicium*, and *Arnica*) again displayed some of their golden flower-heads. These, together with *Linarias*, *Geraniaceae*, and especially *Campanulas*, formed an ornamental picture which was continuously renewed, while its attractions were enhanced by contrast with the verdure of the turf and the whitish tones of the scattered rocks.—ED. ANDRE,

in Revue Horticole.

grown if this can be avoided, or probably some of the leaves will become loosened at the axis, and all such will drop in the spring. If the Sphagnum about them has grown too luxuriantly during the summer months and appears to hold more moisture than is advisable, this must be trimmed back a little. The same may be said of some other Orchids, such as the heat-loving *Oncidiums*, as *O. Papilio*, *O. Kramerianum*, *O. Jonesianum*, *Scuticaria Steeli*, or any others of a true epiphytal nature. The small-growing *Angraecums* are somewhat similar to Phalaenopsis in their requirements, but *A. eburnea* and *A. viridis* are just breaking into flower and must be kept moist. Large pieces of the former are, in fact, quite as active at the roots as they have been at any time through the summer and are watered almost as frequently. Notwithstanding the brilliant season, *Catasetums* have not done well with me, several plants having smaller pseudo-bulbs than last year, and in no case is much improvement apparent. These may be kept quite dry now, a decided period of dry rest being necessary. The same with *Thunias* and *Calantheas*. These may be repotted in order to save time later in the season, but they must be kept warm and dry all the same. *Cochogyne cristata* has finished up well and is showing for bloom. Here a little moisture is obviously needed, no Orchid more rapidly showing the result of too dry treatment than this. The last formed pseudo-bulbs should never shrivel; and all the nutrient contained in them is required, and if any of it is allowed to waste, the result will soon be apparent in poor flowers and weak growths. There are other species in the genus that require, perhaps, less water, especially in spring, when the young growth is just starting, but in no case must the pseudo-bulbs shrivel. *Epidendrum bicoloratum* is a difficult subject to deal with at this time of year. Moisture it must have, and in considerable quantity, nor must it be kept cool, yet it is necessary to its well-being that the growths remain dormant. Each grower must to a certain extent take his own course with plants of this description, but I may say in regard to it that moist atmospheric conditions with comparatively dry roots are more to its taste than the opposite, and less likely to encourage thrips, its inveterate enemy. *Miltonia vexillaria* is now in active growth, and the temperature for this Orchid must not fall much below 55° on the coolest nights. It is important that it receive no check from any cause, whether it is dryness of the atmosphere, draughts, or the attack of insects. Keep the glass clear above, and if any plants are in a doubtful condition at the roots, re-pot into sweet open material without delay.

Among *Cattleyas*, the early flowering section, as represented by C. *Percivaliana* and C. *Trianae*, will need more moisture than the summer flowering kinds, which are nearly all at rest. This will not, of course, apply to growths out of season, as mentioned in my last notes. *Laelia anceps* has been fine this season and many more flowers have yet to open. *L. superbiens* is pushing up its immense spikes and must be kept moist, the same applying to sheathing plants of *L. purpurata* and *L. grandis tenebrosa* and others. *Maxillarias* and *Lycaesias* are pushing up flower-spikes strongly, and the quietest time for these useful plants may now be said to have passed. In the cool house *Dissia grandiflora* is growing away rapidly and must be kept moist at the root. It may also be syringed overhead with chilled water daily, and all the air possible allowed by day and on warm nights when the atmosphere is moist and mild. What a grand

ORCHIDS.

NOTES ON ORCHIDS.

The aim of the grower must now be to keep all plants that usually rest at this season quite dormant, and these of course comprise a large number of species. In the resting season, as with the growing season, a deal of difference exists between the treatment of various kinds. Phalaenopsis have by now quite finished growing, and must be kept as quiet as possible. Any plants carrying their flowers or forming escapees will need more water than others having none. Some plants may still be showing a little activity at the root, and these, too, must be humoured a little. All that is required for the others is an atmosphere sufficiently moist to prevent too rapid evaporation from the foliage and enough water at the root to keep the leaves plump. Not a drop of water should touch the leaves now. Plants growing in suspended baskets are, of course, not very likely to be wetted overhead, but those on the stage may be when damping down. If they can be raised a little higher, this will obviate the danger to a certain extent and the plants will benefit by the increased light. Never allow the temperature to drop below 60° where the Moth Orchids are

grower D. Veitch is, and also easy of propagation. It is one of the very best of its class, and as it is fairly cheap, this pretty hybrid may be tried even where *D. grandiflora* fails. A surfacing of Sphagnum Moss over the compost helps to keep the roots moist, but care is necessary that no slugs or other insects are introduced therewith. Any of the Pleionei which have finished flowering, such as *P. lagenaria* or *P. maculata*, should be repotted without delay; for if they commence to make new roots it is difficult to avoid injury to these in shaking out and replanting. Fix them firmly in their new compost and give little or no water until they commence rooting. Continue to watch for the spikes of the various Odontoglosses now pushing up and keep them well in sight, wrapping a little cotton wool around the base of each if slugs are troublesome. A little warmth must be kept on the pipes, this allowing the house to be freely ventilated in suitable weather, and all cleaning operations must be pushed on as rapidly as possible.

CALANTHE VESTITA.

In the varied forms of this Orchid we have a number of plants of the greatest value and beauty, and though it is hardly wise to make comparisons, I consider them far before *C. Veitchii* in the latter point. The pure white ground of most of the varieties is shown up so sharply by the deep tints in the eye-like blotch, that it gives to the blossoms decided character lacking in the soft rose tints of the hybrid. As a rule, *C. vestita* does not grow so strongly as *C. Veitchii*, but the bulbs when they attain only medium size produce fine spikes of flower. There are two forms of this species better known than any other—*C. v. luteo-oculata* and *C. v. rubro-oculata*, these being characterised, as the varietal names imply, by a yellow and red eye-like blotch respectively. Each form finds its admirers, and, taken as a whole, one is as popular as the other. The former has the more chaste appearance, but the latter is more showy of the two, and they are both equally easy to grow. Fairly large pots make a better display than smaller ones, but, of course, each grower will use the size most convenient according to the purpose for which the plants are grown. Equal parts of peat fibre, loam and cropped Moss, with a little well-dried cow manure, make a good compost, which may be made richer for very strong plants, but it is easy to remedy any shortcomings in this respect by feeding after the pots are full of roots. These plants may be repotted at any time after the flowers are past, but must not be left long enough for the young shoots to commence rooting, or it will be difficult to avoid injuring them. The old roots will in most cases be quite dead, so may be removed, and in repotting allow the compost to come just high enough to steady the pseudo-bulbs. The surface of the soil may be finished a little bit below the rim, as in ordinary potting, and filling up thrown in plenty of rough, broken crocks or charcoal. The drainage must be good and covered with Moss to prevent the finer portions of soil being silted downards when the plants are watered. If repotted while still dormant, the pots may be placed on a dry shelf in a warm house, and no water allowed until the growth is starting. When the young shoots at the base commence to root, the soil must be thoroughly moistened with a rose'd can and left until it is really dry before giving a further supply. All through the growing season the plants must be kept in a light position, and only sufficiently shaded to prevent injury to the foliage, the water supply being gradually increased as the pots become filled with roots. If seen to be necessary, a few applications of liquid manure may be given, but capital results are often obtained without having recourse to any stimulants. Water must be partially withheld as soon as the foliage begins to turn colour, and by the time it has fallen the

plants will have assimilated food enough for the season and may be kept quite dry. The plants while in bloom must not be placed in draughty rooms and corridors if it can be avoided, but if due care is taken, they are among the best of Orchids for indoor decoration. R.

SACCOLABIUM GIGANTEUM.

LOOKING at this species, one would hardly think it a difficult plant to grow, great fleshy leaves and vigorous roots being generally associated with long life and vigour. That this plant does not possess the latter will be evident to anyone who has grown it many years. Newly-imported plants usually arrive in good condition, and take with a will to whatever they are given in the way of rooting medium. The first few seasons' growth is free, and flower-spikes of good quality are freely produced. After this many hundreds of fine plants dwindle away by degrees, or in some cases collapse all at once owing to some slight error of culture. "There must be some cause for this," someone may say.

Unfortunately, there is more than one. The habit of flowering at mid-winter, when the growth is at its very lowest ebb, is one, the long densely-flowered racemes constituting a strain upon the plants that only strong individual ones can stand, and to which those previously successful by inconsiderate treatment usually succumb. Another, and probably the principal, cause of failure is an unsuitable atmosphere. In our Orchid houses we can command plenty of heat and moisture; light and shade may be regulated almost to a nicety with due care, but what the plants want is the constantly changing air, the freedom to root and leaf, and the congenial moisture afforded in their native haunts by the proximity of larger forms of vegetation. Obviously this is out of the question under cultivation, but still the desideratum need not be lost sight of. In large tropical houses where Palms, Cycads, and Tree Ferns luxuriate there exist conditions more nearly approaching it than can possibly be obtained in the ordinary Orchid house far too much in vogue. Such structures when well housed in the morning keep moist even when a good supply of air is kept on, while a few inches of top ventilation on the smaller class of house means a dry atmosphere unless the can and syringe are kept going very frequently. Then the plants being further from the glass with the foliage of the plants aforementioned over them, no more shading than is necessary for these need be given, and as this is confined principally to the roof, plenty of light will reach the Orchids from the sides. When growing in an ordinary Orchid house, a clear light without being too hot is of great importance, plants grown in such being more likely to pass the winter safely than if unduly shaded.

The heat of the East India house suits it best all the year round, for no resting season is required, though the plants usually steady down a little after flowering. The roots seem inclined to run longitudinally in straight lines rather than twine about the rods of a basket, and I have a fine plant now blooming in a deep pot of the ordinary make suspended from the roof. When growing in this way drip must be carefully guarded against, one drop of icy cold water in the middle of the plant often killing it outright. The plants should never be hung from hooks screwed or driven into the rafters, but always midway between two from an iron rod running the length of the house.

The treatment of newly-imported plants does not materially differ from that recommended recently for *Aerides roseum* and others, but

considerably larger pots or baskets must be used and the crocks must be in a rougher state. Established specimens must be well watered at the roots during summer and a fair supply given until the flower-spikes are over. Then if root-action seems sluggish, keep the plants well on the dry side for a week or two, but never allow the temperature to drop much below 60° at night. It is best in all cases, of course, not to let the foliage shrivel in the least, but if it does a little during late winter, the increasing moisture in spring will set all right again. A more serious matter is spot, which sometimes attacks the best and most vigorous plants, spreading by degrees through the leaf tissues and rendering the plants unsightly in the extreme. This is of most frequent occurrence in houses kept too moist and cool with a stagnant atmosphere, though it sometimes appears in the best managed collections. Nothing but cutting away the injured portions is likely to be of any avail against this pest, and plainly this kind of cure cannot go on too long. The blossoms of *S. giganteum* occur on densely-flowered, cylindrical racemes about a foot long. They are creamy white, with purple markings about the base of the sepals and petals, the lip having a tint of a similar hue. They are very lasting, and all the time they are open emit a most delicious fragrance. It comes from the East Indies and was introduced in 1864. H. R.

Ocridium nubigenum.—The pretty little white and purple flowers of this variety make a welcome change from the yellow flowers of most *Ocridiums*. It is now in bloom in the cool house, where it thrives, being a native of very great altitudes in Ecuador. It is not a very free-rooting plant, consequently a good deal of care necessary in the preparation of the compost and in watering; but once get it well established, and little difficulty will be found in keeping it healthy. While growing it must be kept constantly moist, frequent very light dews from the syringes keeping the foliage cool and free from insects.

Camaridium ochroleucum.—This singular and not very showy species comes from a correspondent for a name. It is closely allied to the *Cymbidiuns*, and differs in having a gracefully curved column not unlike that of *Cycnoches*. The sepals are greenish-white, the petals very narrow, and the lip has a few reddish markings about its base. It requires the heat of the East India house, and should not be treated quite so liberally as the large growing *Cymbidiuns* as regards compost. Equal parts of peat and Moss, with crocks added, will suit it well, and it thrives under pot or basket treatment.

Dendrobium aureum.—The blossoms of this early-flowering Dendrobium cannot be said to be as showy as those of many of its congeners, but the delicate colour and delicious fragrance are strong recommendations. The plants, as a rule, do not exceed a foot in height, and have pale green stem-like pseudo-bulbs and narrow leaves. The flowers, which occur in racemes of two or three from the nodes on the ripened bulbs after the leaves have fallen, are creamy yellow on the outer segments, the lip downy, yellow, with lines of crimson. *D. aureum* is a tropical species, requiring while growing a moist temperature and plenty of light. Towards the latter part of the season it may with advantage be hung in the full sun, a thorough ripening being needed if the plants are to flower freely. Strong plants may be given medium-sized pots, according to their growth, but weaker or badly rooted ones must be very closely confined at the root. In repotting, take equal parts of peat and Moss and mix together, adding plenty of hard material in the layers rather than mixing it with the other ingredients. By having plenty of plants the flowering season may be prolonged from early in November until April. The variety *philippinense* is a large growing geographical form, not so useful a garden plant as the type.

ZYGOPETALUMS.

THESE, though not so showy as some other Orchids, are, nevertheless, well worthy of a place in all collections, as they bloom at a time of the year when choice flowers are scarce. The scent, too, of most of the species is very agreeable. As *Zygotetalums* make large leaves it is necessary they should be allowed plenty of root room, otherwise they will fail to grow satisfactorily. Potting should be done directly the flowers are cut. In most works on Orchids peat

turned out. In potting see that the compost is well worked in between the roots, and do not press it too firmly or there will be some difficulty in the young fleshy ones pushing their way into it. When potted the plants should occupy a light position, and as it is usually early in the season when such work takes place, it will not be necessary to shade. Very little water will be needed till the young roots commence to take hold of the fresh soil, but the foliage must be occasionally damped over with

the syringe to keep down insect pests, as both red spider and thrip are very troublesome, and when these are allowed to make the least headway there is but a poor chance of a healthy growth, without which it is impossible to get strong, well-developed flower-spikes. Many people try to grow these plants in too low and airy a temperature, the consequence being that they fail to make satisfactory progress, often dying off altogether. As most of the species come from the warm climate of Brazil, it is evident they cannot put up with cool treatment, and, from the nature of their foliage and pseudo-bulbs, it must be apparent to all that they cannot do with drying off, as it were. The temperature during the summer should range from 60° to 65° at night, with a rise of from 15° to 20° by day, according to the state of the external temperature. During winter the thermometer should never be allowed to fall below 55°, even in severe weather, for at that time, though growth is not very active, the young roots are putting forth, and are therefore easily injured. A humid atmosphere ought always to be maintained when the plants are in active growth, and manure water may be used provided it is weak. As autumn approaches and the plants show signs of maturing their leaves, less water at the roots will be needed, but on no account should the soil be allowed to get dry. It is during this stage that root action is least active, for as soon as the flower-spikes show themselves growth commences; on this account the plants should never be subjected to a low temperature. There are some species much more difficult to grow than others, but by a close study of their habits it will soon be found out what suits them best; therefore those who have hitherto failed to grow them satisfactorily would do well to give them another trial. Amongst some of the best will be found

ZYGOPETALUM BRACHYPETALUM.

—This showy species, which usually flowers at the end of the year, was introduced from Brazil about fifty years ago.

Z. BURKEI is a distinct species, with long narrow leaves, having curiously marked flowers, each about $2\frac{1}{2}$ inches in diameter. It usually flowers in December. It was sent home by Mr. Burke, who found it growing in the swamps in Guiana.

Z. CLAVI is a beautiful hybrid raised by Colonel Clav about twenty years ago. It is of robust habit, having foliage about 18 inches long.

Z. CRINITUM AND *Z. INTERMEDIUM* are forms of the old *Z. Mackayi*. They all flower about the same time of the year, and when well grown make



Group of *Zygotetalum*. From a photograph sent by Mr. H. C. Prinsep, Buxted Park, Uckfield.

is recommended for growing these plants in, but I prefer a compost composed of two parts fibrous loam to one of dried cow manure broken into pieces. The plants having been turned out of their old pots, all the sour portions of soil should be removed with a pointed stick, taking care in doing so not to injure the roots more than can be avoided, or it will take the plants some time to recover. If well rooted they should be shifted into pots at least two sizes larger than those from which they were

the syringe to keep it fresh. The soil, however, should on no account be allowed to become dry, or root action will be slow. When the plants have started into active growth more water will be needed, and as the pots become filled with roots it will be necessary to examine them daily in case any should get dry, as the long plaited foliage will need much support.

During the summer, shade should be afforded, as the young foliage is very tender. The plants should also be frequently damped over

handsome specimens, the long spikes carrying from five to eight flowers on each, frequently two spikes on each growth. Z. Mackayi was introduced into this country in the early part of the present century.

Z. *maxillariae* is also a very free-flowering species, with a rich purple lip.

Z. *Burii*, a native of Costa Rica, is one of those peculiar species that Orchid growers sometimes find it difficult to find a suitable place for.

There are many other species of this lovely genus which all require about the same treatment. Some may be put at the warmest end of the house, while others should enjoy a cooler and airier position, all, however, require shade during the summer, and a fair amount of water according to the strength and size of their leaves when in active growth. If close attention be paid to other matters in the way of ventilation and keeping the plants free from insects, there is little doubt but that they will grow satisfactorily.

H. C. PRINSEPE.

Oncidium Jonsianum flavens.—This differs from the type in having faint orange markings on the outer segments in place of the deep chestnut brown. These are too near the tint of the ground colour to show up well, and they give one the idea that they would be better away. Like the type, it delights in tropical heat and moisture, much more in fact than most South American Orchids. The roots take well to wood blocks, and in any case the receptacle used must be small and abundantly drained.

Dontoglossum Cervantesii punctatissimum.—This is a very profusely spotted form of the type, the sepals and petals being thickly covered with bright rosy pink markings. It occasionally crops up among importations of the species, but is far from plentiful. Like the type it delights in cool, shady, and moist quarters, and the roots must be confined to pots or pans of limited size. Equal parts of peat and Moss should be used as compost, only a thin layer on the surface being required. Keep the roots in a nice moist condition all the year round.

Laelia anceps Barkeriana.—This variety is not so large as many others, but very deeply coloured, the narrow sepals and petals being bright rosy purple, the lip much deeper in colour, showing up the yellow crest well. Formerly rare, it is still far from plentiful, a larger and paler form having in some cases to do duty for it. It makes a splendid contrast to the white varieties, than which it is much freer blooming. Grown in small baskets or on rafts in a good light it requires an ample water supply while growing, but when at rest very little will suffice. Repot this plant early before the roots get far advanced; in fact, when the flowers are over the sooner it is done the better.

Pilurna nobilis.—The chaste, white blossoms of this pretty Orchid, shown up by the dense yellow eye spot in the centre of the lip, are always welcome, especially when they come in winter. They are larger considerably than those of *P. fragrans*, of which it is sometimes considered a variety. For sprays, button-holes, and other purposes for which cut flowers are in request they are admirable, lasting well in water and also retaining their perfume for a long time. When established it is not by any means difficult to get plants to grow, but it will not thrive in a dry atmosphere, and can the roots be induced to enter a close or waterlogged compost. Thrips are its worst insect enemy, these insects being attracted to it in a remarkable manner. Good peat and Sphagnum Moss kept in an open condition over good drainage suit it well, and when once the roots have attained a good hold of this they may be kept fairly moist all the year round.

Losaria autumnalis delicata.—A plant purchased under this name is now flowering, and, though distinct from the type, is not so showy. The sepals and petals are of the faintest purple

rose imaginable, the margin nearly white and tips flushed with rather a deeper hue. The lip is rose, coloured with streaks of a pretty lavender tint, the centre yellow and white. The plant is small and appears to have much narrower foliage than the typical form. A light, sunny position at the coolest and most airy part of the Catleya house or in the Mexican house, of course, one is at command, should be chosen for it. The plants do well in shallow baskets or on rafts with only a light surfacing of material. A very distinct growing and resting season is necessary, the roots requiring abundance of water during the former period.

Cypripedium Boxallii stratum.—A good form of this Orchid comes from a correspondent, the dorsal sepal being very fine. The margin of white is well defined and clear, the dark spots in the centre showing this off to perfection. Like the useful old *C. villosum*, to which it is very closely related, the typical *C. Boxallii* and all its varieties are easily grown and seldom fail to bloom freely. Equal parts of peat, loam fibre and chopped Sphagnum, with plenty of crocks to ensure aeration, will do well as compost, the plants when once established in this thriving well in a moist greenhouse or intermediate fernery. Though a native of Burmah, it will do well in the Catleya house, and must be freely watered at the root.

Calanthe Veitchii alba.—This beautiful va-

riety of *C. Veitchii* is a charming Orchid, the

blossoms, of the purest white, produced on long

graceful spikes, as in the well-known hybrid.

Those who are fortunate enough to possess it may

easily increase their stock by cutting up the

pseudo-bulbs. Each fair-sized bulb will make

three or four if carefully split vertically and laid

on a bed of Sphagnum in a close propagating

frame. As soon as the young shoots that form

attain 1 inch or a little more in height, they may

be potted up singly, still nursing them carefully,

and giving very little water until the new roots

start. In two years these make good flowering

bulbs.

DONTOGLOSSUM ROEZLI.

THERE are few more beautiful objects than a large and well-flowered specimen of this splendid Orchid, and when such an one is exhibited it always elicits a great deal of praise from visitors. Its very free flowering nature makes it rather a difficult plant to cultivate, and only where its wants are thoroughly understood and properly catered for is it at all likely to be a success over a lengthened period. It requires considerably more heat than any other in the genus, thriving best in a good light in the East India house, where the temperature is brisk and atmospheric moisture abundant. It is seldom at rest, one set of pseudo-bulbs being hardly finished before new growths again make their appearance; consequently the roots must not be dried summer or winter, but always watered according to the state of growth. The roots, though freely enough produced, are very impatient of anything sour or close about them, so that with thriving plants somewhat frequent repotting is necessary. The best time to do this is when the pseudo-bulbs are attaining maturity and the roots are being emitted from the base. Use everything about them scrupulously clean. I have often seen the surface of the compost over-run with a troublesome and unsightly fungus owing to dirty or decayed labels having been placed in Orchid pots. The pots need not be large, but must be well drained, and only rather shallow, so as to keep them early.

Fix the growing points of Sphagnum Moss on the very best and toughest of peat fibre without a particle of sand or dust may be used for compost, and as much as possible of the old material must be worked out from between the roots with a pointed stick. Plant firmly, keeping the base of the bulbs above the rim on a neat cone-shaped mound, trimming off all ragged ends of peat or Moss. Place them back at once into the growing quarters, and water carefully until the roots are entering the compost freely. Light

dewings overhead with warm water from the syringe may be given at closing time when the weather is bright. This helps to keep red spider and thrips in check, the latter being one of the worst insect foes to this class of Orchid. If any of these are seen about the plants they must be at once cleared off, the easiest way being to fumigate the house first and afterwards sponge each plant separately, then dip in tepid water, roots, leaves, and all, and afterwards dip the heads in a weak solution of tobacco ash, after placing them on their sides, so that the liquid drains away from the compost. Then wash them leaf by leaf with the sponge and afterwards rinse with clear tepid water. This cleanliness is in fact of the very utmost importance, without which all other cultural details are futile. O. Roezli is a variable species, the typical form bearing flowers each about 3 inches across the labellum, which is clouded white with a central blotch of purple and a yellow crest. The variety roseum is a lovely form, in which the white in the type becomes a delicate rose, while album has pure white blossoms, with the exception of a yellow blotch near the column. All the varieties are native of Colombia, whence the type was introduced in 1873.

R.

LELIA ALBIDA.

The blossoms of this species are very refined and delicately tinted, and if the plant were only a little more amenable to culture it would be one of the most useful of winter-flowering Orchids. It is quite distinct from all the other Mexican Lelias in habit and flower, the latter occurring on erect scapes, and in the type nearly white, with just a tinge of lilac purple on the sepals and petals, the lip purple with a yellow centre. Usually the plants are satisfactory for a season or two after being imported, but a backward tendency is usually apparent after about the fourth or fifth season, and this, as a rule, cannot be arrested, the plants getting weaker and the bloom-spikes smaller year by year. It is important that the plants be given a suitable and lasting root-hold at the first, and taking everything into consideration, large rough blocks will be the best for medium-sized and large plants. If pans are used the plants come away all right, but soon grow out of them, with the result that larger sizes have to be used and naturally more compost. This is not of much service, as the blocks, for only a little Moss need be placed about the leading bulbs and no disturbance will be necessary. Trellised blocks may be used if preferred, the plants being easily fixed to these, but difficult to remove on account of the roots becoming entwined about the rods. The first season the plants do best in the Catleya house; after this the Mexican house proper suits them. Plenty of air all the year round is of great benefit, and a light position not far from the roof should be afforded them. Roots are freely emitted in early spring, and from this time onward there must be no stint in the water supply until the new pseudo-bulbs are fully matured. At no time must they be quite dry, as the spikes need support, and shrivelling must be prevented at all cost. In the pan a very light surfacing of compost only is needed, and this must be of the best quality, whatever peat is used being quite free from all earthy particles and sand, this if present silting down among the drainage and choking it. An inveterate foe to *Lelia albida* is the soft woolly mildew so frequently seen on *Lelias* and *Cattleyas*. It seems to get to every part of the plant, and is very difficult indeed entirely to get rid of. A moist atmosphere must be kept up at all times.

R.

Dendrobium superbium.—A good form of this Dendrobium is well worth all the care necessary to grow it well, but when one comes across varieties of a poor, washed-out purple tint, and considers the number of easily grown and handsome things this genus contains, it is a question if these are worth keeping. Several such I have seen this year, and in strong contrast to this is a

spike sent from a neighbouring collection with fourteen charming flowers. These are very rich in colour, and, although they have been open for five weeks, are quite fresh. A strong heat and abundant moisture while growing and almost total exposure to the sun are necessary in growing this plant.—H. R.

Leilia purpurata.—I never remember the plants of this superb Orchid so forward as they are this season. The pseudo-bulbs and sheaths on large plants here are quite finished, and almost every young bulb has its sheath. Doubtless this is due to the prevailing conditions in early autumn, and as the plants are now at rest, I hope that the flowers will not be produced before the usual time. Evidently the treatment of this Orchid should consist of the two ways : either keep the plants at rest until the spring, and let them come quickly into flower, or endeavour to get them, as noted above, well finished in time for a good rest in sheath. It is bad policy to have them

every collection. It does well and flowers freely under the same treatment as suits the type.

Sphronitis violacea.—This is hardly the class of plant to appeal to present-day Orchid fanciers, yet the blossoms are extremely pretty, the soft rosy purple hue being not too common among cool house Orchids. The bulbs are not, as a rule, much above an inch high and the blossoms about the same distance across. In a very shallow pan or a piece of cork lightly dressed with Sphagnum it is not difficult to grow, provided the atmospheric conditions are kept steady and the roots carefully and judiciously attended to. These must never be really dry or the tiny pseudo-bulbs soon shrivel and become weak. It comes from the Organ Mountains in Brazil, and was introduced in 1840.

Odontoglossum Rossi rubescens.—Though a geographical form only of the species, this is quite as distinct as many so-called species. It is much larger, and the sepals are beautifully

quite erect scapes. The sepals are much elongated, joined at the base, and there forming a hollow, which contains the genitalic parts of the flower. The colour is a brownish yellow, varying considerably in different plants, and marked with streaks and spots of purple-brown. It is a native of New Grenada, and was introduced in 1870.

STOVE AND GREENHOUSE.

OXALIS FLORIBUNDA.

One of the most useful of all Wood Sorrels is this species, which has several names, i.e., rosea, lilacina, alba, arborea, &c., and which is perhaps the best known of the exotic species of Oxalis grown in this country. It is well named, thrives under ordinary greenhouse treatment, whether grown in pots for the embellishment of the stage, in baskets or pans suspended near the roof, as shown in the illustration, or as an edging in conservatories, as in one of the houses at Kew. It will grow in any light soil provided it gets a liberal supply of water and sunshine, and it seeds so freely that it may easily become a weed. The plant forms a very short herbaceous st. m. which is sometimes buried, sometimes exposed (hence, I suppose, the name arborea), and is crowded with long-stalked, trifoliate leaves. The scapes are from 6 inches to a foot long, and they bear umbels of medium-sized elegant flowers each about an inch across. There are white, pink, purple and variegated varieties. The species was introduced from Chili in 1823.

For an account of some of the best of the cultivated species of Oxalis, of which about 200 are known, and also for a picture of the largest and handsomest of them all, viz., O. Bowieana, the reader should refer to THE GARDEN, May, 1890, p. 508. In some parts of Cornwall, and also in the garden of the Rev. Mr. Ewbank in Ryde, Isle of Wight, O. Bowieana is grown as a hardy border plant and is most satisfactory. I believe it would grow and flower well out-of-doors generally if treated as a summer bedding plant, as, indeed, it used to be grown in Battersby Park.

W. W.

Striking Carnations in autumn.—Although depending principally upon February-struck cuttings to supply the chief batch of plants for winter-flowering, I usually put in a limited number of cuttings, say during October or the beginning of November, and I find that with a little care 90 per cent. of them root satisfactorily. In spring, so few gardeners having a real propagating house, the cuttings are necessarily placed in Cucumber or Melon houses, in which case generally both the bottom and top heat is much greater than is good for them. Now, however, one can even in such houses just give a bottom heat of say 70°, and at the same time obtain a maximum top heat of 60°. This is stated that, especially, top-dressed carnation cuttings are selected. I use handlings for the purpose, and always leave a small aperture for the escape of any superfluous moisture, thus avoiding damping. My batch so treated this autumn rooted in a month, and will now be wintered in a cool, airy house close to the roof glass after being potted into very small pots. I would advise all those who have not special means in spring to make up a small warm bed of leaves in a cool house rather than to run the risk of failure from the unsuitable temperature of Cucumber houses.—J. C.

Ardisia mammillata.—This is a very distinct and at the same time uncommon species of Ardisia, which was first introduced to this country about ten years ago, and in the early part of 1888 Messrs. Veitch were awarded a first class certificate for it at one of the meetings of the Royal Horticultural Society. It is in general appear-



Oxalis floribunda. From a photograph sent by Mr. H. G. Clos, Kirtlington Park, Oxford.

on the move about the end of October and then growing sluggishly all through the winter. I have noticed the same thing in connection with *L. grandis tenebrosa*, but in this case the flowers are actually produced in autumn, while those of *L. purpurea* keep until spring in embryo. R.

Lycaste Skinneri alba.—This is one of the best of the white winter-flowering Orchids in country districts, but one may within the fog area of the metropolis soon succumb to its baneful effects. Quite as large as in a medium form of the type, the blossoms are of the purest glistening white on the sepals and petals, the lip being also white with a yellow centre—the effective combination that gives most white flowering Orchids such a charm. Though still rather highly priced at the nurseries, it is much more plentiful than many albinos, and doubtless it is only a question of time before we shall see it in almost

spotted with red their entire length ; the petals are spotted at the base, the rest pure white, the triangular lip also pure white with a bright yellow centre. As a rule, one or two or three flowers are produced on each spike, but the plants are so free blooming that even a small specimen looks well furnished, and at this time of year very bright and cheerful. The blossoms last six weeks in good condition, and are useful for cutting. Like all the varieties of *O. Rossi*, it is of singularly easy culture, thriving in the cool house all the year round and in almost any kind of pot, basket, or pan.

Mesadvia linni macrura.—This is a grand species, and owing to its strong-growing character and the consequent ease with which it may be propagated is becoming much more plentiful than formerly. The blossoms last a long time in good condition, and are produced singly upon

ance very different from the well known *A. cerasifera*, but, as with that species, the highly-coloured berries form the principal ornamental feature. A mammillata has an upright unbranched stem thickly clothed with pale green ovate leaves, each about 6 inches long, and disposed in an almost horizontal manner. A peculiar feature of these leaves is that they are thickly puckered all over the surface, thus presenting the appearance of being covered with small wart-like elevations, and from the centre of each one springs a white hair, which gives to the leaves a hoary look. The flowers are borne in small clusters on short stalks, pushed out from the upper portion of the main stem, and are succeeded by berries, which are when ripe of a scarlet colour and remain fresh and bright for a long time. It is quite a dwarf growing subject, and will flower and fruit freely when not more than 6 inches high. Owing to the somewhat dense style of leavage the berries are often partly hidden from view. This Ardisia requires the temperature of a stove and needs to be well supplied with moisture, but at the same time it resents being syringed overhead. It is easily increased by seeds, which ripen readily enough and do not lie long before they germinate.—H. P.

Dissubditing Tree Carnations.—The hint thrown out by Mr. Crawford re dissubditing Tree Carnations is well worth considering, as in cutting the blooms very often two or more buds have to be sacrificed. An extra bud to a full-blown flower is certainly of value, but I think it is advisable to throw the extra strength into the main bud. Thanks to the generosity of Mr. Crawford, I was supplied with over 200 cuttings, and have now that number of large healthy plants in 6 inch pots. These have been grown entirely under the directions as put forth by Mr. Crawford in THE GARDEN, and are good evidence of the soundness of his teaching. It is quite evident that Tree Carnations are coddled too much by some people during the winter, with the result that the flowers do not open kindly, and the plants are further ruined for the production of healthy cuttings. Healthy cuttings grown under cool treatment will root for a certainty, given ordinary care. Most Tree Carnations are naturally dissubdited. This season's seedling of plantlets were all lifted and lifting in the autumn, I have had them throughout in 5 inch and 6 inch pots. In these sizes they do not grow so rampant as when planted out, and being dissubdited down to a dozen or two dozen blooms, these grow to quite a presentable size. My plants will produce a succession throughout the winter.—A. Y. S.

Pelargonium Königin Albert.—The various notes that appear from time to time in THE GARDEN, pointing out the many desirable qualities possessed by the double-flowered Ivy-leaved Pelargoniums and the different uses to which they may be put, remind one that it is now just twenty-one years since the first member of this section was distributed in this country. This was the variety Königin Albert, which was raised by M. Oscar Liebmann, of Dresden, and distributed in the spring of 1875, the price charged for it in this country being £5 a plant. It sold readily and soon became popular, for not only was it quite a break away from any of the varieties then in cultivation, but at that time new Pelargoniums could be sold in quantity at a higher price than is the case now-a-days. This Pelargonium possessed the true Ivy-leaved character, whereas the varieties popular at the present day are for the most part of stiff growth, which in all probability they owe to a certain amount of intercrossing with the zonal section. This is also shown in the flowers as well as in the leaves and style of growth. It was not half a dozen years later that many members of this group, in appearance, were being principally indebted to M. Georges M. Lemaitre for the earliest varieties. Within the last half a dozen years or so there has been no great advance to record in this section, though a very desirable variety (Rycroft Surprise) received an award of merit in 1892. Souvenir de Charles Turner—which is, I should say, the most

popular variety of the present day, was awarded a certificate August 11, 1885. Though these double flowered varieties with an infusion of zonal blood did not make their appearance till a few years after Königin Albert, yet there were some forms of this section with single blossoms before that time. The best known—raised by the late Mr. John Wills as long ago as 1869—were Willsi and Willsi rosea.—H. P.

Asparagus scandens.—In the very interesting article on varieties of Asparagus (p. 439) no mention is made of Asparagus scandens, which is a decidedly ornamental member of the genus and one of the oldest South African species that we have in our gardens. It is certainly at the present time very little grown, though one occasionally meets with a good example of it. There is such an one in No. 4 greenhouse at Kew, where it is employed for furnishing one of the pillars that support the roof, and very well adapted it is for such a purpose. Asparagus is, as indicated by its specific name, a climbing plant of growth, and to furnish a screen pillar 10 feet or 10 feet or 12 feet in height it is of considerable merit. The leaves are not so light and elegant as those of *A. plumosus*, *A. tenuissimus*, and others of that class, being more like those of *A. sprengeri*, which has considerably advanced in popularity of late.

In *A. scandens* the leaves are from a half to three-quarters of an inch in length, somewhat curved, and of a very bright green colour. They are mostly borne in two opposite rows, which, being arranged nearly on one plane, give the climbing stems a flattened frond-like appearance. The climbing stems are numerous and well furnished with foliage, consequently if trained to a pillar they form quite a dense mass. As in all the others, propagation may be carried out to a limited extent by division, but established plants will doubtless produce seed, for I see the Kew plant has now a few blossoms on it.—T.

THE CYCLAMEN AS AN AUTUMN-FLOWERING PLANT.

I CAN well remember when the normal form of *Cyclamen persicum* was our only type; when it was regarded as a spring flowering plant only, and when gardeners adopted the barbarous plan of planting out the corms in an open, sunny spot after they had done blooming, in the belief that thorough roasting and resting were necessary to induce the plants to blossom the following season. Now all is changed, and the Cyclamen is now regarded as a subject for bloom in October and onwards instead of in March and April, as heretofore. The treatment which induces this early flowering appears to coincide entirely with the culture of the plant, for not only does it grow freely and bloom abundantly, but continuously also. There is now great variety in tint with flowers of enormous size undreamt of half a century ago.

The Cyclamen was seen in fine form at the December exhibition of the National Chrysanthemum Society. The groups of these plants shown by Messrs. Orpwood, of Uxbridge, and Bowles, of Hanwell, comprised over 200 superficial feet, and the flowers showed up wonderfully and formed imposing masses of colour. No flower probably stands a heated atmosphere better than the Cyclamen. Notwithstanding the cross breeding resort to for the purpose of obtaining new varieties, it is yet found in experience that a plant of any one variety if isolated will reproduce itself in considerable proportion from seed. But the large majority of those who grow this flower for autumn or winter decoration prefer a mixture of colours, ranging from pure white to maroon crimson. The remarkable development in the depth and richness of tint found in the Cyclamen is noteworthy. The growers of fifty years ago noted a crimson Cyclamen, and yet we have it to-day, brilliant in colour and large in size. It was at one time thought that only the light varieties could be advanced to the larger-flowered type, while the crimsons would remain for ever small,

but the latter have reached the giant stage also. Some of the crimson Cyclamens are so much shaded as to be unduly dark, and then they lose their lustre. The aim of raisers should be to produce bright reds, scarlets and crimsons: the more radiant the better.

Essentially a greenhouse plant, the Cyclamen is not unduly tender, doing best in an equable temperature. There must be artificial warmth to maintain it in bloom after October, though solar heat will suffice to bring it into flower at that period. Where heat is applied it should be regulated as evenly as possible. Extremes in this respect should be avoided. Abundance of light is all-important in autumn and winter, but in summer, when the plants are in cold frames and making a free growth after potting, some shade from the sun is required, and an atmosphere moist rather than dry.

R. D.

DOUBLE PRIMULAS.

THERE are many so-called double Primulas which are raised from seed, but these drop their flowers in the same manner as do the ordinary single varieties. The true double varieties do not seed, and the flowers do not drop off. Taking the old *P. sinensis alba-plena* there are few plants which keep up such a succession of bloom throughout the winter. Though the individual flowers are not so large as those of other varieties it is certainly the most prolific. The varieties *fimbriata*, *candidissima* and *Fairy* very closely resemble each other, all having rather fuller flowers, the petals fimbriated instead of being divided into two lobes as in the old variety. The varieties raised by the late Mr. Gilbert some years ago are also well worthy of attention, but they are more difficult to manage. Being of vigorous growth they do not usually form a number of crowns like the old variety, hence, they cannot be so readily propagated, yet where they do succeed the fine large flowers are much appreciated, and they are well worthy of the extra care necessary. I find there is little difficulty if the stock is healthy to start with. They should stand on a cool moist bottom, well exposed to the light, giving sufficient fire-heat to keep a fairly dry atmosphere, and careful attention to watering, especially avoiding too much moisture. At the same time the slender root-like roots soon suffer if allowed to dry out. A good compost for potting is fibrous loam, leaf mould, and some well-rotted manure, with a liberal addition of sharp sand. In potting the plants the crowns should be kept well down on the surface. It is a mistake to suppose that if the leaf stalks are partly buried damping will follow, the contrary is the case, for the new roots come from the stems, and as they advance in growth these will not be able to reach the soil, and the plants soon get weakened. When the pots are well filled with roots liquid manure may be used freely, but if grown on too vigorously they do not flower so freely as plants of moderate growth.

H.

Rhododendron Star of India.—This, one of the many javanico hybrids that have been raised by Messrs. Veitch, has beautiful trusses of rich orange flowers, very showy, and certainly most decisive in tone. Aurora is another, with salmon red flowers, and Triumphans has richly-coloured flowers, very intense in their brilliant, almost cardinal hue.

Bomarea.—There are now several species of Bomarea in cultivation, and included amongst them are some very beautiful climbers, but in many gardens they are certainly not a success; indeed, it is quite the exception to meet with a good thriving example of some of the best kinds. In the succulent house at Kew many of the species are planted out and trained to the roof, a situation which just suits them, for during the year many of them flower very freely. Quite recently Bomarea Cardieri was bearing one of its large, wide-spreading heads of blossom, which individually are in size and shape a good deal like those of a *Lipagaria*, but of a totally different

colour—pink, with brown spots. The smaller growing *B. oligantha* was also in flower, and, taken altogether, this is one of the most satisfactory members of the genus, as it pushes up a large number of shoots, each of which when strong enough is terminated by a cluster of brightly coloured blossoms, each with yellow spots, with brown. Not only are the flowers very attractive, but at Kew this species seeds freely, and when ripe enough the capsule splits and exposes the bright red seeds, which remain attached for a long time. *Bomarea* are nearly related to the *Alocasia*, and, like them, the shoots are pushed up from an underground rootstock, and when fully developed are terminated by a cluster of flowers. For this reason especial care must be taken that the growing shoots are not injured in any way, as if the point is broken the flowers are lost. On this account slugs must be particularly guarded against just as the young shoots are making their appearance above ground. *Bomarea* succeed much better planted out in a well-drained border than in pots, the soil employed being of an open nature, say equal parts of loam and well-decayed leaf-mould, with a liberal amount of sand. They are usually spoken of as green-house plants, but they succeed best in a temperature above that of an ordinary greenhouse, for in a structure from which frost is just excluded the flowers do not open kindly during the winter months. They need a light position, as if at all shaded the flowers are pale.—H. P.

LIBONIA FLORIBUNDA.

Few winter-flowering plants are more useful than this *Libonia*, yet how seldom one meets with it. Of easy culture, good bushes clothed from summit to base with their pretty bugle-shaped flowers of red and yellow being alike useful for house or warm conservatory decoration, also for cutting. One thing, which, however, must be guarded against is putting the plants into rooms lighted by gas, as this soon causes the leaves to turn yellow and fall off. Given a gas-free atmosphere, however, they will last for some considerable time in good condition. For the adornment of small glasses also they are useful in a cut state, and look well used in dinner-table decoration. It is advisable to raise a fresh stock of plants annually, although it is as well to save a few old plants, trim them back, thin out the growths, and grow them on to form large bushes in 8-inch pots, these coming in very handy for placing singly in ornamental vases in the house or for the decoration of the stove or intermediate house. Cuttings are best taken off in February, these having been encouraged by cutting hard back several old plants in January and placing them in a moist, warm house to break freely. They quickly root, when they must be potted off into small pots, using finely sifted loam of a light nature, a little leaf-mould, and silver sand. An ordinary stove suits them best for a time, or, say, till April, when after being shifted into 4½-inch pots an intermediate house will do. With ordinary care and an occasional syringing overhead growth will be rapid, and when roots become numerous a little diluted liquid manure once or twice a week will be beneficial. If a pit having a flow and return pipe in it can be spared, the plants may be planted out in it in nice loamy soil towards the end of May and lifted again in September. The only insect which troubles *Libonias* much is red spider, but with good cultivation and avoiding a root-bound condition this pest can be kept at bay. If kept in pots all the summer the syringes must be freely used twice a day, as an arid atmosphere is not only un-favourable to a free and healthy growth, but also encourages this insidious insect. If those who have not yet tried *Libonia floribunda* for winter decoration will only do so, I am quite

certain they will be pleased with it. It is useless attempting to keep plants in the same pots a second year, as they are such free-rooting subjects, and when so treated invariably lose all their leaves.

J. CRAWFORD.

Lilium Harrisi.—Many failures have to be recorded with this *Lily*. Sometimes the bulbs refuse to start into growth at all, or if three or four are placed in one pot some will, perhaps, start weeks before the rest, those remaining dormant the longest usually being the weakest, and often failing to develop perfect blooms. I must confess to having had indifferent success with *Harrisi* for a year or two, but think I have now discovered its particular wants. One and the chief is that the bulbs be potted as early as possible after being received, as bulbs left in shops or on shelves in gardens for several months invariably shrivel and lose much of their weight, after which they do very little good. The same rule applies to all sections of *Lilies*. *Harrisi* also seems to need a great deal of deep potting, say from 2 inches to 3 inches of soil over the bulbs, as if plumb when put in, if left so that a portion of the crown is visible, shrivelling, more or less takes place. Further, the soil in the pots must be kept pretty dry from potting time until new growth is say an inch long, and even then only small quantities of water must be given till roots are fairly numerous. Neglect of this rule generally ends in basal rot. I find, also, that stiff non-porous soil does not suit it, or at any rate to be sure of the formation of young roots at the start, a good quantity of heavy sandy soil must surround the bulbs, in fact it is a good plan to embed each in silver sand and leaf mould. Old gardeners who grew fine beds of those beautiful old *Lilies lancifolium rubrum* and *album*, used to mix abundance of leaf mould in the beds each season, some using road grit or the sweepings of walks and drives. Plenty of light is likewise needed or a weak elongated growth is sure to follow. Green fly must not be allowed a footing, or in a very short time the foliage turns sickly and seldom recovers. Some say that the bulbs will flower twice in one year, but I find that the bulbs, after having flowered in pots, do not seem to be of much use.—C. C. H.

KITCHEN GARDEN.

EARLY TOMATOES.

WHERE very early Tomatoes are expected, or say by April, many gardeners make it a rule to strike a number of cuttings from autumn-bearing plants in October, believing, and rightly so, I think, that plants so raised come into fruit sooner than seedlings. One great drawback, however, with plants saved through the winter in small pots is that, however near they may be kept to the glass, they almost invariably become drawn and weakly, so much so, in fact, that if saved entire and potted on, say, in January, growth for the first month or so is too weak to produce bloom-trusses sufficiently strong to fruit; consequently the plants are bare of fruit for a long distance from the pots, and much of the trellis is wasted. By far the best plan is to keep the plants in a temperature of from 55° to 60° during November and December, and to take 6 inches of the shoots and insert as cuttings the first week in January. These if plunged in a gentle bottom-heat, each cutting occupying the centre of a small pot, and a night temperature of from 60° to 65° maintained, rooting will take place in three weeks, when the plants must be raised near the roof glass, where growth will be both rapid and strong. If potted on from time to time the final shift may be given in March, 9-inch pots or 10-inch pots being used. Usually by this time a few small fruit will have set, and these will swell

away and ripen in April if the plants are not subjected to cold air during the potting process. A good holding loam, preferably maiden, with a free addition of sifted mortar refuse and a small quantity of bone-meal, suits them well. Small pots for very early batches are imperative, as a too free root-run induces a strong and unfruitful growth at this comparatively sunless season, and the plants are generally thrown away as soon as the first flush of fruit is gathered, as they do not pay for fresh growths to be taken up from the base, as do spring raised plants. Where it is preferred to allow the autumn-struck plants to fruit, they should, in order to make the best of them, be shifted in January from their small pots into 6-inch ones, but instead of potting in the ordinary way the leaves should be removed from the lower part of the stems, the latter being bent round inside the pots when three parts filled with soil and secured with small wooden pegs. By this means a dwarf plant to begin with is secured, and from each of the joints of the embedded stem young rootlets will quickly start, these greatly strengthening the plants as growth advances. A common mistake made with early Tomatoes is giving them too much heat during the dark sunless days of January, and even in February a night temperature of 60° is ample. A moist, stuffy atmosphere often given by the inexperienced is also fatal to a solid growth and good set of fruit. Attacks of insects need not be feared from a dry, buoyant atmosphere.

J. CRAWFORD.

Flavour in yellow Turnips.—The note at p. 456 is interesting in one way and misleading in another, as to get a strict test with regard to flavour "D." should have had bulbs grown on the same soil and of the same age. I have nothing to say against the yellow-fleshed varieties; indeed, I am fond of them, but one must be careful not to discard our well-known kinds for the yellows, as many employers do not think so highly of their colour as "D." He states white Turnips are not always good, being hard and hot, and thus objectionable. Turnips are often too old. That is not the fault of the variety, but of the grower. I consider a quickly grown Snowball in the early summer or a Red Globe in autumn equal to any yellow Turnip, given same culture.—W. L. M.

Turip Golden Ball.—Those who saw the splendid roots of this Turnip at the recent show of the National Chrysanthemum Society will not need to be informed of the value of the yellow-fleshed varieties for winter use. The roots staged were perfect specimens, many being grown north of the Tweed, showing their value for certain soils. I would point out the value of Golden Ball as a keeping variety for use in any garden where Turnips are in request. I admit some may object to the colour, but none will to the flavour. The quality is excellent, and this, combined with its good keeping, should make it a favourite for winter supplies. The roots are not inclined to coarseness if given a quick growth.—G. W. S.

Pea Autocrat.—There is scarcely another Pea that has received such a prominent notice as this, although there are so many first-rate sorts for summer and autumn growth to be had. The many references during the past season, together with the notes now appearing in *THE GARDEN*, stamp this as being one of the finest of autumn Peas, and I anticipate that it will get even a larger sale during the coming spring. A variety that claims such universal praise is not likely to be very easily surpassed, at any rate not for some time. The past season has been a most disappointing one, Peas generally, and one that can defy such untoward seasons as deserve of all the praise bestowed.—W. S. Wills.

Cucumber Progress.—There appears to be no lack in the introduction of new Cucumbers, and I may safely add most of them may be

classed as shapely fruits with a small seed space and good eating qualities. Several of the new forms are a distinct advance on the older types. Now that I have given a trial to this year, a new variety gives a first-class certificate in 1894. The quality is all one may desire, not coarse, and of a rich dark green colour with few spines. It is one of the most perfect exhibition fruits I have seen. It is not on that account, however, I advise its culture, but for its free-bearing and extra good quality. The well-known Telegraph was one of the parents of Progress, and it possesses many of its parent's good qualities, but is less inclined to form a neck than the older form, and, in my opinion, a heavier cropper. It is a grand frame Cucumber and one equally good for summer or winter use, as I have it fruiting freely at the season. I find it does not seed freely.—G. W.

Onion Record.—This variety was prominent at the recent show of the National Chrysanthemum Society, and appears to be a special favourite, as it was in splendid condition and one of the best staged. It is not as an exhibition bulb I am writing in its favour, but as a good all-round variety for home use. I have grown the above variety for several seasons, and each year I am more pleased with its cropping qualities. Its keeping qualities are equal to those of the useful Bedfordshire Champion, one of the best for winter use. I think a globe-shaped Onion always keeps better than a flat one. This may be a small matter, but such is my experience, and Record, as regards its shape, is perfect, and a very fine variety for poor, light soils. It never fails with me and is a very good winter vegetable; indeed, grown for this purpose it is excellent, being noted as of superior quality for cooking whole, on account of its mild flavour. The bulbs are very solid, and when not grown very large are most useful for general use.—G. W.

Quality in Celery.—Celery is of excellent quality this season, and up till now I have not dug a single indifferent stick. The growth is solid and sound, with a sweet nutty flavour. Slugs have given very little trouble. With a satisfactory root-run to start with, no one need trouble about the application of liquid manure. My practice for years has been to give two or three slight dressings of salt along the sides of the rows, and this seems to be just what Celery likes. The hot and too early earthling will grow excellent Celery. Veitch's Superb White and Major Clarke's Sweet Red, with Standard beater for a late supply, are my choice favourite varieties. I believe in getting a good stand, and at the same time cultivation answers for a deal. My impression is that heavy waterings of liquid manure with dressings of other artificial fertilisers are answerable for much of the faulty Celery and its early decay. Grown strongly, the leaf-stalks become pithy and these soon decay.—A. YOUNG.

Stachys tuberifera.—This high-class vegetable, in reference to which notes appear on pages 302 and 456, called by some the Chinese and by others the Japanese Artochiko, though at present but little grown, possessed qualities that should ensure its popularity if given a fair chance in the kitchen, which "A. D." now unreasonably doubts. Where it is well cooked and properly served there can be no two opinions as to its being particularly palatable. The following method of cooking it is calculated to do full justice to the merits of this appetising tuber. Thoroughly wash in cold water; dry on cloths; drop into boiling fat in a white-hot basket; take out and drain on white paper. When thus prepared the colour of the small tubers is a golden brown and at first sight they are not unlike white-bait. In fact, I have partaken of them, with the accompaniments of brown bread-and-butter and lemon, under the title of *blan-maïillé de terre*, which completely mystified the guests and led to several questions as to the nature of the excellent dish. Served in this manner, of course without the bread and butter and lemon, it is a valuable addition to the game course. The tuber is of ca-

culture, and from gardens where it is once grown it is not likely to be allowed to disappear.—S. W. F.

Small or large vegetables.—At p. 436 "H. C. P." gives such strange advice and comes to such diverse conclusions that his note is difficult to understand. He is puzzled how judges arrive at their decision, but it is anything but puzzling to those who care to examine minutely into each exhibit. I admit judges, in common with other mortals, are liable to err, but to say they did not take all points into consideration at the recent Aquarium show is a strong indictment "H. C. P." should explain. He then goes on to ask why were the rules or code of judging of the H.S. ignored. He must ask the N.C.S. for an explanation. I had no idea the latter society had anything to do with the H.S., or was bound by its rules in any shape or form. Again he states little judgment is brought to bear on the awards given. This is, I presume, only on his own version and certainly an erroneous one, as he thinks the judgment wrong, why does he not specify his point and not go off into general subjects like the growth of vegetables? In one place he praises size in another he condemns it. I trust the N.C.S. will note his objections and select him as judge to rectify the many faults at issue.—A. GROWER.

BOOKS.

AN INTRODUCTION TO STRUCTURAL BOTANY.*

A CLEAR and handy text-book on the structure of Ferns, Liverworts, Mosses, Seaweeds, fungi, bacteria, and Myxocoetes, for the use of botanical students in the field, or for facilitating practical work in the laboratory. Part 1, published in 1894, dealt with the types of flowering plants, viz., the Wallflower (eogenes), the white Lily (endogenes), and the Spruce Fir (gymnosperms); and in the present or second volume the types are twenty-three in number, being described and illustrated in seven chapters. The two hardly little volumes are well printed, and really form a most valuable contribution to structural botany; that is to say, of the anatomy and physiology of type plants selected from each great natural division. They are the best and clearest elementary works I know of for the use of botanical students and advanced gardeners. F. W. B.

ORCHIDS OF SOUTH AFRICA.†

The first part of this useful and interesting work was issued in 1888, as vol. v. of the Transactions of the South African Philosophical Society, and contains thirty-six plates, with introduction and descriptions. As a rule the Cape Orchids are not of the showy class now so popular in our hot houses, but to this sweeping assertion the great scarlet *Diss. grandiflora* of the Table Mountain forms a brilliant exception. Curiously enough, Mr. Roland Trimen, F.R.S., studied the life-history of this plant in 1863 (see Linn. Soc. Jour. (Botany), vol. vii., 1864, p. 144, with plate). On its native mountain that *Diss.* has a wide range of altitude, growing vigorously in great and dense masses, being apparently propagated exclusively by the formation of new lateral growths or tubers. Isolated plants, such as might be expected if the species seeded freely, are rarely seen. Considering the showy flowers and the fact that no insect now seems to aid in its fertilisation,

* "An Introduction to Structural Botany," Part 2: Flowering Plants. By Unchanted Henry Scott, M.A., Ph.D., &c., Hon. Keeper Jodrell Laboratory, Kew. Pp. 312, with Index and Illustrations. London: Adam and Charles Black. 1896. Price 2s. 6d.

† *Jeunes Orchidacae Austro-Africanum, extra Tropicinum, et hirsuta, with descriptions of extra-tropical South African Orchids.*" By Henry Bolus, F.L.S. Vol. i. part 2. London: W. W. Wesley and Son, 28, Essex Street, Strand, W.C. 1896. (With fifty plates, partly coloured.)

Mr. Trimen inferred the probable extinction of the insect, or insects, that in former times performed the office of cross fertilisation, this having been possible by the bush fires so prevalent before the British and Dutch occupation of the Cape-town district. Be this as it may, it is cheerful news to gardeners who grow this noble terrestrial Orchid to know that it holds its own so bravely by vegetative means of increase only, and as recent regulations have forbIDDEN indiscriminate collection for sale, it is likely to be seen in all its natural beauty beside the streams on Table Mountain for many years to come.

Taken as a whole, this work "is intended as an attempt to describe the Orchids growing on the peninsula of the Cape of Good Hope: to give their names and synonyms, to arrange them as far as possible in groups, to deduce the stations where they are found, and to give further distribution as far as is known. To this end additional lists of collectors and of books and papers already published upon the subject of South African orchidology." That the author regrets that it does not go further is of course quite natural, and he regrets that he has been unable to clothe "these dry bones with living flesh and blood, and exhibit the life-history of some of the complex and curious organisms here enumerated." But we are satisfied that the author has done the best he could in "the leisure of an active business life during several years," and we wish others would follow his example and illustrate things by drawings or the roughest of sketches even of natural objects rather than trust entirely to wordy descriptions and the so-called logical speculations about them. These two volumes of descriptions and plates of the South African Orchids are most valuable and complete, so far as they go, and we hope the author will go on with the series until the native material is exhausted, and so present to us a full record of the Orchid flora of the South African district.

F. W. BURBIDGE.

GARDEN FLORA.

PLATE 1098.

THE GREATER BINDWEEDS, OR HEDGE BINES.

(WITH A COLOURED PLATE OF CALYSTEGIA SYLVATICA AND C. SEPIUM VAR. ^{*}).

There are not a few of the attractive plants grown in our gardens that require to be used or planted with extreme caution in order to avoid future trouble, and amongst these beautiful robbers or usurpers we must place the great Hungarian Bindweed and the rosy pink form of our own native *Calystegia Sepium*. Both are far too insidious and grasping ever to be used on good borders or in beds amongst shrubs or herbaceous plants, for if once they stitch their white thong-like roots into clumps of other things it is next to an impossibility ever to get them out again, and meanwhile they smother up everything during their season of growth. They are, as the illustration well shows, most elegantly beautiful in growth and in blossom, and places appropriate may readily be found for them in which while growing rampant they can do no harm. We may, for example, safely and satisfactorily plant them beside woodland walks or in copses in positions where they can twine and dangle from Hazel, Birch, or sapling trees of various kinds. Even in winter their dead bine and warm brown leaves give colour to the landscape and form an additional cover for game and birds of all kinds; or they may be planted here and there in Thorn or Quick-set hedges at points where

* Drawn for THE GARDEN by H. G. Moon. Lithographed and printed by J. L. Goffart, successor to Guillaume Severyens.

W.C. BARBER
June 26, 1886



their beauty may be seen from footpaths or roads, while I know of nothing better for quickly growing up and hiding ugly iron palisades or railings. I once saw a cottager's pigsty made beautiful by the great white Bindweed, common Hop Vines, and the great French soup Gourd, which, planted in the little garden behind, had scrambled on to the red-tiled roof, which it completely covered with its great red fruits and succulent green leaves.

Not unfrequently there are isolated shrubs on grass lawns that do not themselves flower or are of no great importance, and these may often be covered with either one or other, or both, of these Calystegias. As thus used in places where they are easily kept within reasonable bounds by the scythe or lawn mower, they are not at all dangerous, and at the same time are very beautiful from July until they are killed off by the frosts of October and November. One of the most effective combinations I ever saw was made by planting the great Polygonum sachalinense and roots of these Bindweeds in well-enriched earth in a large hole made on a grassy lawn in a half-shaded place. The Polygonum threw up its great shoots to a height of fully 16 feet, arching gracefully outwards over the closely-mown grass. Over these great leafy wands the Calystegias clambered and entwined themselves, and when their great flowers expanded the whole group was very much admired. I have also seen these Bell Bind, as they are sometimes called, grow very prettily over the arching shoots of Willows and Bamboos in half-wild places where they did no harm. But there are many other ways and many more suitable places in which to plant these flowers which, rampant though they be, are far more ornamental in more or less out-of-the-way or derelict corners than are their usual weedy occupants. The white-flowered Calystegia sylvatica in deep rich soil will grow fully 50 feet high in a single season, and was very beautiful during the past season up a Laburnum tree in my own back garden. C. sylvatica is a native of South Europe and the Caucasus and North Africa, and, except in size, differing but slightly from our native species. C. Sepium var. incarnata, the rose pink form in the plate, is generally supposed to be N. American, but is naturalised in at least one or two places in Ireland. Mr. Smith, of Newry, told me a long time ago that a rose flowered var. of C. Sepium existed in quantity on the side of the railway near the junction at Goraghwood, Co. Down, and I have heard of its growing apparently wild elsewhere in Ireland. Such a plant would be almost sure of establishing itself anywhere if thrown out of a garden, and a railway embankment is in itself a suspicious locality, so that it is safest, perhaps, to assume that the pink var. of C. Sepium is not really native, but probably an escape from cultivation.

F. W. B.

Cheap rates for market gardeners.—One thing which has always handicapped market gardeners and florists residing at a good distance from London is the heavy railway charges this, together with the commission charged by salesmen, taken in many cases all the profit off. It is gratifying, however, to learn that the Great Eastern Railway now convey market gardeners' produce from London to the metropolis at the rate of 20 lbs. for 4d. This, I think, is very reasonable, and will make it still better for several of my friends in that district who enjoy the advantage of supplying West-end shops direct, thus saving the middleman's profit. One grower does this with Violets and Carnations, but then the quality of both is

very good and the retailer can make the top price of them.—J. C.

THE WEEK'S WORK.

KITCHEN GARDEN.

CARROTS ON HOTBEDS.—Where early Carrots are much appreciated, the close of the year should see a good hotbed of leaves and manure made up for their production. Fortunately, Carrots do not require a great amount of top protection as long as they have warmth underneath them; indeed, they are far better without it, so that it is only necessary to provide a framework that will support one or two thicknesses of Russian mats when such covering is wanted. In my own case I use old unglazed lights over the beds, and these are supported at frost and back on planks set up edgeways and covered on frosty nights only. Of course, good water-tight sashes are better, but these are generally required for other purposes. Of far greater importance than the covering is the bed itself, and this should be thoroughly well made and trodden firmly so as to retain a moderate heat throughout the winter for many weeks. To do this quite a large proportion of the material must consist of good hard leaves, say three-fourths of the whole and the remainder of stable litter. I advise the making of quite a large bed, even if the whole of it is not required, as the bigger it is, in reason, the less fear there will be as to loss of heat. It ought also to be deep, standing not less than 4 feet above the ground level when finished. Firmness and a tolerably level surface are necessary items to bear in mind, so it is well not only to tread firmly at first when making, but again at intervals of two or three days after the heat has risen and before the soil is put on. In preparing the soil, choose that which is light and sandy and mix with it all the wood ashes that can be conveniently spared for the purpose, as this will assist growth considerably. I also like to pass the whole through a sieve, and for the Short Horn varieties I use about 4 inches depth of soil. Thin, broadcast sowing is the most suitable method for such beds, and as a quick-growing variety the Parisian Forcing can hardly be beaten.

SEAKALE.—There should be no further delay in lifting the whole stock of this which is required for forcing, as the crowns are now well rested and ready to respond to gentle forcing, when wanted. The work of lifting can be done in mild weather far less injury than when the ground is hard frozen, and it is in every way preferable to have all under cover before January is upon us, for, mild as the weather up to the time of writing has been, we cannot expect to get far into the new year without getting a spell of frost that will put an end to ground work for the time being. Take care of all things which are large enough to make planting sets, as they are easily kept if treated as I recommended in my notes at the end of last month, and though they may not all be wanted, it is best to get sufficient to allow for discarding any which show signs of rust at planting time. This caution is especially necessary where the Lily White variety is liable to go a little wrong; not that I have had any personal experience of this defect, but I have seen it elsewhere and regret that it is so, as I consider it in appearance a long way ahead of the old purple, and with both varieties planted side by side, I find the Lily White makes the better crowns.

LETTUCE.—Where the supply of these has run or is likely to run short, very good substitutes for the tender heads of fresh green lettuce may be had by sowing thin in boxes of sandy soil coloured variety and cutting the produce while young. For this purpose Cabbage varieties have been recommended, but I prefer either the Paris White Cos or Hicks' Hardy, the latter being particularly crisp and substantial. A pan or two of seeds sown at intervals will provide a lot of salad and tone down a little of the bitterness

of Endive and Chicory which become too apparent, when these have to be used in excess. A early viney or other fruit house now at work would be an excellent place in which to raise such salatings.

CHICORY.—I have advised the use of this for cooking in a green state, and with a view to helping out the Spinach crop at a critical time it will be well to select all roots over and above what may be wanted for salatings, and pack them snugly into a corner of a forcing house which is just being started. All they want is a little soil packed between the roots, a good watering to settle the soil and then to be left alone. If room is scarce it can be dealt with economically by building a mound of soil and roots, the latter to be placed crowns outwards, and it is not even necessary that they shall be vertical so that they may occupy the whole surface of the mound. Many good and tender pickings may be had from a few roots, as they go on producing secondary shoots for some weeks.

DIGGING.—This should go on whenever the weather permits, as there is no more uncomfortable occupation during continued frost than the thought that ground work is behindhand and in prospect of getting on with the crops. Many crops, too, do best on ground that has been dug some time previously, and the plots for these should be prepared first. Notable among such crops are Onions and Peas, and for these the ground ought certainly to be dug before the new year. Odd bits of the early borders should also be dug, as these come in nicely for sowing early crops, and seeds may be sown on narrow borders, where no treading need take place, at times when digging would be unwise, if not impossible. Early Cauliflowers, too, should be prepared for, as they do not care for soil in too loose a condition.

LOOKING AHEAD.—Before bidding good-bye to the old year, it should be the custom with the head of a garden, of whatever size, to put on his thinking cap and to arrange a set plan for next year's cropping. If this is done the work goes on more smoothly, mistakes are not so easily made, and the occupants of the various plots are more certain of getting the special treatments they deserve and need. This looking ahead is a forgotten art, for backward glances too—*too*—all the more necessary in gardens so limited in size than the demands require, as we are thus enabled to avoid a surplus of this and that, and utilise the space so saved for an increase of others which may have run short. The seed list, too, should be scanned, with a view to adding, if possible, a few new things which have been noted as doing especially well elsewhere during the year. At the same time, old standard things must not be discarded until the new ones have been proved; in this way possible failures may be avoided, while we keep a little up to date with our crops.

J. C. TALLACK.

FRUIT UNDER GLASS.

FRUIT HOUSES.—By the end of the year the majority of these structures in most gardens will be cleared of their crops. The trees should, therefore, be pruned and cleaned, and the houses washed down and made ready for starting again whenever they are required. The advantages of getting all such work done now are manifold, not the least amongst them being that more time and care can be bestowed on them now than when the days are getting longer. It should always be the aim of gardeners to get the work well in hand before the tail of the day for usually there are many things that must be done in spring that will not allow of much delay. Where these are several Peas houses that follow each other in succession these can all be got ready in bad weather, the trees tied, borders forked over and watered, so that if it be necessary to use them for forwarding early crops of Peas and salads, this can be done without interfering with the work of getting the houses ready. The same may be said of late vineyards, except it be those in which Grapes are

still hanging. Where any Vine eyes are required for propagating, select some of the best ripened shoots and label them properly, after which insert their ends in soil in the potting shed. The month of November was, on the whole, a very fair one for keeping Grapes, there being but few fogs and not so much rain, less than $\frac{1}{2}$ inches having fallen here. December, so far, has been the opposite, there having been more than double the quantity up to this date, so that constant watchfulness is needed to keep the Grapes from spoiling. Where there are only a few bunches still hanging in a house, these should be cut with sufficient wool attached that the ends may be inserted in water; the house can then be cleaned as before advised. But where Grapes are still hanging that are required to be kept till March, every care must be exercised to keep them from spoiling, for where the roots are in outside borders and exposed to the influence of the weather, the soil will have become thoroughly soaked, so that the berries will be charged to their utmost capacity with juice, the least excess of damp in the atmosphere of the house in which they are hanging would cause them to split or mildew; therefore a gentle heat should be maintained in the hot-watery air, so as to bring the temperature a few degrees above that externally. Air at the same time should be admitted to prevent any condensation. All leaves will by this have fallen; if not, where any remain these should be picked up as soon as they fall to lessen the risk of damping. Look carefully over the bunches every two or three days and remove all berries that show the least signs of decay. Keep an eye on rats, mice and birds, as these sometimes get through the ventilators and do considerable damage before they can be caught. During inclement weather the trees in orchard houses should be pruned and dressed; those against walls and trellises may be nailed or tied in position. When special structures are set apart for the cultivation of Apricots, as is advisable in districts where they do not succeed satisfactorily in the open, the trees should be pruned and put in order if such work has not already received attention. All shoots should be liberated and re-tied or nailed in position. It is a mistaken economy to allow any shreds or ties to remain, as such invariably cut into the wood and cause canker or gumming. If the trees receive due attention in the summer, very little pruning will be necessary, only the leading shoots shortened, or any that may have become worn out removed. By getting all such work done now there is less risk of injury to the buds when they are most vulnerable. Any trees in pots that have been plunged in the open should be protected in case severe frost should set in, which would prevent their being removed under cover if the soil were frozen too hard.

MELONS.—Where ripe fruit of these is required by the end of April or early May, a few seeds of some quick growing variety should now be sown. One seed only ought to be placed in the centre of a 3 inch pot, and to ensure quick germination plunge them in a brisk bottom-heat. The seeds will come up more regularly if put into the soil with the pointed end downwards, and the plants will grow more robust afterwards. As soon as the seedlings appear through the soil, place the pots near to the glass to prevent the plants from becoming drawn, as by so doing a more sturdy growth will be produced. For a first batch pot culture is preferable, as they take up less room and so allow the Melon house to be utilised for other purposes. The first lot of ripe Melons is always appreciated, as they come in at a time when dessert fruit is not overplentiful; therefore those who can command sufficient heat would do well to grow a few.

STRAWBERRIES IN POTS.—Owing to the absence of sun during September and October, the crowns of these have not matured so well as one would wish. It is therefore doubtful if the early batches will push up their flower stems so strongly as is desirable, and many may go blind. To prevent any mishap, introduce another batch into a succession house that they may be in readiness for moving forward in case the others do not prove

satisfactory. In many establishments these have to be grown on shelves in other fruit houses, and as they are often put in at the time the houses are got ready, some of the most promising should be selected for the earliest batch. Where the balls of any have become dry so as to have left the sides of the pots, after cleaning their surfaces of any weeds, the soil should be made firm and the pots afterwards plunged in water for a few hours till the balls are thoroughly soaked, as it is useless attempting to force plants in a dry condition. With the exception of a few winterly days at the end of the last month there has not been any cold weather to seriously check the growth, so that, unless plants were rested by being kept comparatively dry, they will have scarcely got dormant. Where they are in cold frames, keep the lights tilted both night and day till severe frost sets in, and if sunny in the daytime, remove the lights altogether.

FRUIT ROOM.—Most of the late varieties of Apples and Pears are keeping well till the year considering the rough time experienced during September and October. Those that were allowed to hang later in the trees still retain their freshness, varieties such as Lane's Prince Albert, Yorkshire Greening, and others of that class not showing the least signs of ripening. Pears gathered from walls have kept well, Winter Nell, Passe Colmar, Huyghe's Victoria, and other first-class flavoured varieties being excellent. Pay close attention to the condition of the ventilation of these structures, and whenever there are signs of moisture settling on the fruit, open the ventilators at the apex a little on fine days to allow it to pass off, otherwise decay will be sure to set in. Any that show signs of becoming specked should be removed at once, that they may not affect the others. With so much wet weather it is difficult to keep such places exactly as one would wish, but with close attention any serious danger may be averted. Grapes in rooms must be closely watched to prevent any mishap. Take the bunches out of the bottles occasionally and examine them, and should there be any signs of a berry going decayed this ought to be removed at once. Keep the bottles filled with water that the fruit does not shrivel. It is not advisable to apply fire heat unless there is danger of moisture settling on the berries, when such must at once be expelled. Instead of doing so when the nights are cold, apply the heat in the daytime and open the ventilators a little so that all will have passed off before nightfall, when the place should be closed again, taking care to exclude all light. If these little items receive due consideration, fruit may be kept in good condition for a long time.

H. C. PRINSEP.

TREES AND SHRUBS.

EVERGREEN SHRUBS IN THE FLOWER GARDEN.

As at this season people are apt to reconsider the arrangement of their gardens and the ground round the house, we propose to say a word in favour of a new way of dealing with flower gardens, so far as most places are concerned, and that is, in all large and bare flower gardens, terraces and the like, to use hardy shrubs more freely. We do not mean massing in stiff, paddling-like masses of shrubs, such as have been occasionally done with evergreens, but rather an attempt to do what has never been done, so far as we know, and that is to show the natural beauty of the best evergreen shrubs in the flower garden itself.

To anyone who considers the question from an artistic point of view, the great bane of all modern bedding-out and terrace gardens is the flatness and hardness and the absence of all grace except that of the flower itself, so that in summer the effect may be very poor and even ugly, and in winter there is nothing at all.

This kind of effect is the bane of our gardens, and people who visit countries like Madeira and Algiers acknowledge that there is something more in the garden than the bare pattern of the beds and little low groups we see in the English flower garden or the grave-like flats which come when all is over in the autumn. How are we to get this bushy growth which makes the flower garden so much more interesting and soft in effect, and, moreover, gives us, if we rightly use it, the background which is so good for our flowers, as well as light and shade and beauty and variety of form, all things worth thinking of? The Dutch gardener, who only knew the Willow, clipped it, and got his background from that and a few other things, which means, in a garden where it is carried out to a large extent, the destruction of the natural form of the shrub or tree, as the case may be; but, bad as this way is, it does give a little form and background, although we think that it gives something that could be got quite as well from natural forms and things. We should not only not clip them and distort them in any way, but we should not even plant them so close that they would fail to show their natural forms. If we crowd, as a good many people do our Rhododendrons and Azaleas, we, of course, cannot see any individual beauty of form that each kind may have. Almost every kind has a peculiarity of form which ought to be shown, and which in the case of old bushes may become a really beautiful thing. We are very much richer now in beautiful evergreens than we ever were before, those people living near the sea or in sheltered valleys and in warm soils having a much larger choice than those who live in cold valleys or in inland districts, but everywhere something to improve the look of things by bringing the form and verdure and foliage of evergreens nearer to us in the garden, and for these gardens, of course, a good background is necessary, but so many places are bare, with large breadths of terrace and other things near the house that really are wretched winter and summer, and in such places we can set to work in various ways.

Firstly, in all peat or free soils where Rhododendrons and Azaleas, and what are called American plants, do well, a very pretty kind of garden might be formed of evergreen shrubs, very carefully chosen and set rather thinly, so that we might grow the beautiful Lilies and other flowers which thrive in the same sort of soil between them. This evergreen flower garden, as we might term it, might suit those who objected to the continual disturbance of the flower garden, and did not see their way out of it in any other way. Where, as sometimes happens, there are different kinds of gardens near the house, this might be done on one side and be a charming contrast to the other, and in such a garden we could have the choicest Rhododendrons in carefully chosen colours, Kalmia, Andromeda, and all the pretty plants which do well among the evergreen shrubs. Rhododendrons being a host in themselves. They should be in simple beds, which would allow of good cultivation and grouping, and in certain soils this is one of the most delightful kinds of gardening that can be done.

Secondly, where we do not wish to give the beds altogether to the evergreens, there might be at the corners of a large garden, or immediately surrounding it, separate groups of the same kind, and in a garden in which there are beds and borders there is no reason why we should not have groups of Kalmia taking part in the bed or border itself. In the case of very small gardens we might get our background of

shrubs in their natural form, and in front the space devoted to the flowers. In all cases the planning should be of the choicer kinds, as is generally the case, never, if possible, using grafted plants, so that we may avoid the risks of planting on the ponticum Rhododendron, which so often kills the choicer kinds put upon it, and also robes them of any distinctness of form they may have. The ungrafted shrub will always be more likely to show its own character than the grafted one. While taking up this view of separate groups we can offer another good change, and that is, by using the more interesting deciduous summer-leaving shrubs among the evergreens here and there, which all give beautiful different shades of green and different forms, and tend to encourage the kind of bushy, half mystic effect we seek instead of the usual flatness and hardness; and where we can call upon the choicer deciduous, as well as the evergreen, shrubs it will be seen that we have a very large choice indeed, especially when we see how well they will associate with the hardy flowers and bulbs.

AMERICAN PINES.

HARDY EVERGREENS.

The following list of Evergreens is perfectly hardy in the north-west:—

American Arbor-vita (*Thuja occidentalis*) and all of its varieties, Balsam Fir (*A. balsamea*), Fraser's Fir (*A. Fraseri*), Siberian Fir (*A. sibirica*), Colorado White Fir (*A. concolor*), White Pine (*P. Strobus*), Red Pine (*P. resinosa*), Mountain Pine (*P. Mugho*), Scotch Pine (*P. sylvestris*), Austrian Pine (*P. austriaca*), Norway Spruce (*Picea excelsa*), White Spruce (*Picea alba*), Colorado Spruce (*Picea pungens*), Douglas Spruce (*Pseudotsuga Douglasii*), from Colorado, Juniperus communis, procumbens, and prostrata.

All the Evergreens that are hardy in the north-west are hardy in the east. The American Arbor-vita is hardy, also all the many varieties it has produced, including Hoveyi compacta, sibirica, pyramidalis, golden, &c., but the Pacific coast species are not hardy. I may say further that there is not a Pacific conifer in all the Pacific slope that is hardy in the north-west except the few species that are found in the Rocky Mountains, including *Picea pungens*, Douglas Spruce, *Abies concolor*, *Picea Engelmiana*, and *Pinus ponderosa*, and even the seeds of these if collected on the Pacific coast will not produce trees that will stand this climate. Mr. Parsons of Flushing imported a large quantity of Douglas Spruce seeds at the time of the California gold discovery forty-seven years ago, and seedlings raised from them were planted liberally all through the east as far south as Washington, and failed in a few years. During the summer of 1863 I noticed Douglas Spruce trees that had been brought from Pike's Peak, Colo., by gold hunters in their wagons, and planted in Kansas, Omaha, and Western Ill. note, that had stood for several years and had started from the terminal bud every spring after the year they were planted, and the same was true of *Picea pungens*.

About 1870 Professor C. S. Sargent received from Professor C. C. Parry, Douglas Spruce seeds from Colorado, and they produced trees that are now 30 feet to 40 feet high and as hardy as the Green Mountain native conifers; the same is true of the seeds I received from C. C. Parry at the same time. In 1865 I imported from California large quantities of coniferous seeds of all the noted species, and continue it for three years. The final result was that not a tree from all these seeds ever left the nursery except in smoke from the brush piles in which they were burned. After I saw the trees brought by the Pike's Peakers and had received a quantity of Douglas Spruce from Colorado, Burnett Landreth sent me several pounds of *Douglasii* to raise the seedlings until two years old to plant in his forests in Virginia. I sowed them side by side with our Colorado seeds. His

seeds made a more rapid growth than mine; at the end of the two years mine were sound and hardy and his were so that they were all dead or injured in the spring of the third year.

In all my experience with coniferous seeds from the Pacific coast with the thousands on thousands of miles I have travelled, and the time and expense and the trying of patience and strength, I have not been able to hold one tree for the term of five years. My last experience was four years ago with the Weeping Spruce. I had written to seed collectors to get me the seeds at any cost. My son, who was then in California, tried every way to get someone to collect it, so I wired him in August, 1892, that I would come out and we would have it. The small group of these trees stands on the summit of the Siskiyou Mountains where it crosses the coast range, and I expect that tree on such exposure would stand like those on the bleak mountain tops in Colorado.

After leaving the railroad on the highest point we went 40 miles in a hired carriage, left it there, and another day brought us up to the summit of the peak of the Siskiyou Mountains on horseback; but such a day; how can I describe it? Such noble trees, varying in species as we ascended, but when we reached the summit in the evening the fog was such as I had never experienced. I have seen the heaviest London fog, and the heaviest fog in the Redwoods on the coast, but I never saw a fog like that Siskiyou fog. We took men with us that could climb like squirrels, we had eight pack-horses loaded with the small cones and sent down to the coast and shipped them by the Pacific Ocean to San Francisco, then my son went back over this whole route and took men and collected the seedlings only 200 or so in all, while he could have collected millions of other kinds. The cones of this tree are small; the seeds run 70,000 to the pound. I sowed the seeds myself and they came up well, and we had over 200,000 growing well. How could we carry them through? They made their first growth. In commencing their second growth many went back. At the end of the second we had half still living about three-quarters of an inch high, and they stood the winter well with protection. The second spring they started in we had hopes, but in the attempt to start their second growth they all failed, and so did all the transplanted trees my son brought before the close of the third year.—ROBERT DUGLAS, in *Gardening* (Chicago).

TREES AND SHRUBS CERTIFICATED
IN 1896.

THE year 1895 was remarkable for the small number of trees and shrubs that received certificates or awards of merit from the Royal Horticultural Society, there being only nine subjects so honoured throughout the entire year; while in 1894 the number was thirty. In 1896 there is a considerable advance on the preceding year, for seventeen subjects, including two hardy Bamboos, have obtained recognition from the floral committee.

CUPRESSUS LAWSONIANA FILIFERA is the first to mention; an award of merit was bestowed on this on March 10. This variety of Lawson's Cypress is very distinct from any of the others, for the branchlets are long and slender and but little divided, sub-pandulous, while the second year they become more or less tassel-like at the points, from which other slender drooping branches are in turn produced. In the formation of its shoots this Cypress bears a considerable resemblance to *Racemosus filifera*, but this last forms a dense, broadly conical specimen, whereas the *Cupressus* is much taller in proportion to its width, and of a looser, more open style of growth. The variety of Lawson's Cypress is by no means new, and was first noticed in the pages of *THE GARDEN*.

DEUTZIA LEMOINEI.—This will in all probability prove to be a valuable flowering shrub, and the finest acquisition of the year. A first-

class certificate was awarded it on March 24, but, of course, the specimens had been brought on under glass for that purpose. It is one of the many good things which we owe to that eminent hybridist, M. Lemoine, of Nancy, and its history has been already given by that gentleman in *THE GARDEN*, October 23, 1895. In style of growth the branchlets of *D. Lemoinei* are straighter and stouter than those of *D. gracilis*, more regular, shorter, and more numerous than those of *D. parviflora*. The inflorescence of *D. Lemoinei* resembles neither the flattened coryms of *D. parviflora* nor the elongated cluster of *D. gracilis*, but takes the form of an erect branching panicle, which is sometimes hemispherical in shape and sometimes like a broad-based cone. Each panicle bears fifteen to twenty-five large, bell-shaped, white flowers. As was the case at the Drill Hall when the certificate was awarded, this *Deutzia* attracted a good deal of attention. In France *D. Lemoinei* was awarded high honours on its first public appearance on April 12, 1894.

JUNIPERUS COMMUNIS AUREA.—This golden-leaved variety of our native Juniper is a very pleasing shrub, particularly bright and effective when at its best. Twenty years ago it would have been thought highly of, as coniferous plants were then general favourites, but there is not such a demand for them now-a-days. A first-class certificate was bestowed upon it on April 21.

RHODODENDRON SCHLIPPENBACHII.—This district Rhododendron is one of the plants that we owe to Mr. J. Veitch, who during his prolonged tour abroad sent it to England. It is a native of China, but is also cultivated in Japan, and has proved to be quite hardy in this country. It is nearly related to *Rhododendron sinense* (the *Azalea mollis* of gardens), but the flowers are much more widely expanded than in that kind, being, indeed, as far as shape is concerned, more in the way of those of the Indian *Azalea*. *R. Schlippenbachii* forms a loose growing shrub, with stout branches clothed with broadly ovate leaves, while the flowers, which make their appearance at much the same time as the leaves, are each about 3 inches in diameter and of a rose lilac, spotted towards the centre with brown. Different individuals, however, seem to vary a good deal in the colour of their blossoms. Apart from value as a hardy flowering shrub, this *Rhododendron* will in all probability be used by the hybridist in the production of new varieties. It obtained an award of merit on April 21.

CYPRESSUS FISSETII DO CERAMOS (Warter's variety).—This is a very fine form of the double-blossomed Japanese Cherry, the individual blossoms being large and full, the colour white, slightly tinged pink. It is a rather slow growing, sturdy plant, whose flowers are freely produced from short spurs all along the younger shoots. It may be kept in pots and flowered for years, or it will bloom equally well in the open ground. The leaves are large, pointed, and sharply serrated. Messrs. Veitch received an award of merit for this.

ACER PALMATUM LINEARILOBUM.—This is a very pretty variety of the variable Japanese Acer palmatum, the different forms of which have proved to be quite hardy in this country. The growth of this is twiggish, while the leaves are divided into long narrow lobes, cut to very near the base. When first expanded the leaves are tinged with red, but change to green later on. Its elegant habit and distinct appearance render this Acer well worthy of the award of merit which it received on May 3.

PITRIS FLORIBUNDA SCHIEBECKEI.—This variety of *Pitris floribunda* differs from the typical form in bearing a stiffer and more compact habit of growth. The blossoms, too, are larger and semi-double, while those of the ordinary kind are single. As, however, a great deal of the beauty of *P. floribunda* depends upon the extremely graceful arrangement of its branches, it is not likely to be superseded by the newer form, which is of stiffer growth.

RHODODENDRON PROFUSION.—This is an extremely pretty hardy Rhododendron, of which,

however, we have now a long list of beautiful varieties. The flowers, which are borne in great profusion, are of a pleasing shade of rose pink. This and the preceding were given awards of merit on May 5.

BUDLEIA CHINENSIS.—At the Temple show some cut branches of this were shown and a first-class certificate awarded. The Budleia is a native of the Himalayas, but is too tender for general cultivation in our country, the specimens having been sent at Blagrove, Queenstown. It first flowered there in July, 1892, and a coloured plate of it was given in *THE GARDEN*, June 10th of the following year. The long, conspicuously veined and regularly serrated leaves are very handsome, while the flowers, which are borne in terminal clusters, are of a beautiful rose colour, with a white throat. Mr. Gumbleton tells us, save planting it against a south wall, this Budleia has never received any protection, but then the south of Ireland has such a favourable climate for tender subjects.

HYPERICUM MOSERIANUM TRICOLOR.—This variegated-leaved St. John's Wort has been many times exhibited, but it never obtained recognition until the last Temple show, when an award of merit was given it. This Hypericum originated at Orleans, in France, in 1891, and was distributed three years later. When fully exposed to the sun the leaves acquire a very rich colouring, for in many leaves the green portion is limited to a small irregularly-shaped blotch in the centre, the rest of the leaf being when young of a yellowish hue suffused with red, but as the leaves mature the yellow changes to a kind of reddish carmine, especially in the most exposed portions of the plant. The leaves of the variety tricolor are narrower than those of the typical H. Moserianum, owing to the carmine-tinted portion being somewhat contracted. From the leaves being more or less of a yellow hue, the golden blossoms which are freely borne do not stand out so conspicuously as on the ordinary green-leaved form.

RHODODENDRON W. M. ARDERNE.—This variety, shown in the shape of cut blooms, is a hybrid between Fortune and one of the garden forms. The flowers, which are borne in large trusses, are of a soft rose colour with a crimson tint and a small dark blotch at the extreme base of the upper segment, while there are a few brownish spots close to it. The individual blooms are of a good size.

RHODODENDRON HELEN PAUL.—This is another variety of much the same parentage, the blossoms of which are pale pink with a deep rose margin. The outside of the bloom is also of a rose tint. The interior of the flower has at the base some brownish spots. Both these varieties were shown by Messrs. Paul and Son, of Cheshunt, and to both awards of merit were given at the Temple show.

AZALEA DIAMOND.—This is a very distinct hardy deciduous Azalea, whose large blush-pink blossoms have each a very conspicuous bright crimson blotch on the upper portion. This contrast in colour forms a marked feature of this Azalea.

AZALEA M. DESNOIS.—The large flowers of this are of varying shades of orange and salmon, according to the length of time they have been expanded. It is said to be a hybrid between A. mollis and one of the pontica section, and it is to all appearance a thoroughly good garden variety. Awards of merit were bestowed upon both of these Azaleas at the Temple show.

CLETHRA ALNIFOLIA.—This is interesting, as being the Old World representative of the North American Paper Bush (*Clethra sinifolia*) for this newer kind is a native of China and Japan. Both the flowers and terminal branching panicles are larger than in the North American species. A first-class certificate was awarded it on July 14, and at the time it was stated that this Clethra had proved to be hardy at Coombe Wood.

BAMBOO YALMATA.—This Bamboo, which reaches a height of 4 feet to 5 feet, or sometimes a little more, has oblong-shaped leaves, each from 9 inches to a foot long and 3 inches or more in width. They are bright green on the upper surface and glaucous beneath. These leaves are

generally disposed near the ends of the shoots, and being arranged in two rows spread out like the fingers of the hand, hence the specific name *palms*. The large leaves of this Bamboo furnish its most prominent characteristic. It is of a vigorous constitution and an aggressive nature, as the rhizomes quickly travel some distance from the parent plant.

PHYLLOSTACHYS KUMASASA.—This is a very distinct and pretty Bamboo, about 2 feet high, whose stems branch freely, the shoots in their turn being plentifully supplied with dark green leaves, which are about 3 inches long and an inch wide. It has proved to be quite hardy, and is useful for many decorative purposes. A first-class certificate was awarded to both of these Bamboos, and Messrs. Veitch who exhibited them have of late made

Lord Annesley's beautiful garden at Castlewellan should appear at the same time in *THE GARDEN* and in the *Gardeners' Chronicle*, and still more singular to note the two different opinions regarding it, for in *THE GARDEN* (p. 449) "F. W. B." has nothing but praise (and I think



Cut-down Pandorea implexa. From a photograph sent by Mr. G. H. Wollaston, Clifton College, Bath.

quite a special feature of this class of plants. Both these Bamboos were described in detail by Mr. Freeman-Mitford in his interesting and exhaustive series of articles on the Bamboo garden, published about a couple of years ago in *THE GARDEN*.

T.
justly so) for this Vine, on the other hand, the *Gardeners' Chronicle*, in the course of an exhaustive article on the gardens at Castlewellan, of which the first portion only has yet appeared, speaks of it thus: "Vitis Coignetiae, about which so much undeserved notice was made a few years ago, is found here, as elsewhere, difficult of propagation, and a Vine measuring 15 feet in width is being abundantly layered. Whether Mr. Ryan

Vitis Coignetiae.—It is somewhat singular that mention of the Japanese Vitis Coignetiae at

will succeed in obtaining fresh plants by this method has yet to be proved. Many American Vines, and others naturalized for their fruits in the country, have leaves more handsomely coloured in the autumn than this species; the colour is reddish purple." Such is the conflicting ideas of two different writers, but I feel sure the majority of readers will uphold the opinion expressed in THE GARDEN rather than that told elsewhere.—H. P.

* * * It colours very well with us in Sussex, even small plants.—Ed.

PAULOWNIA IMPERIALIS.

THIS magnificent Japanese forest tree seldom flowers well in England, but in the south of Europe its racemes of violet-coloured and violet-scented blossoms are well known, and are universally admired in the beginning of May. The specimen here shown is an annual shoot, the plant is in fact grown as an herbaceous plant. Every autumn the yearly shoot is sown off in October, and in the following spring a number of buds appear on the old wood. All but three or four of these are rubbed off, those which are left are allowed to grow for a few weeks; then all but one, the strongest, are suppressed, this one is allowed to grow.

The photograph was taken by Mr. Bromhead in the first week in August of this year. The largest leaf was 2 feet wide and 3 feet long in the blade. Before the time came to cut down the shoot it had added 2 feet to its stature. The plant is ten years old; each year its shoot is finer, but I attribute its exceptional size this year to the constant sunshine of the early summer and to the liberal supply of water which it received. I turned on the hose for half an hour, two or three times a week, to its roots.

G. H. WOLLASTON.

BIRCHES.

THE silvery shafts of the common Birch form a very conspicuous feature in woodland scenery, and some of our painters never seem tired of reproducing this tree in one or other of its ever-varying forms. Other species besides this possess the silvery bark to a greater or less extent, but there are some which are in general appearance, particularly at this season, widely removed from our own native species. One just now is the Red or River Birch (*Betula nigra*) native to a considerable tract of country in North America, and valued there as a timber tree, the wood being close grained, handsome, and easy to work. In this country it does not seem likely to be of any particular value from a timber point of view, but as an ornamental tree it certainly merits more attention than has been given it by planters.

Where the soil is not too dry it is fit of free growth and forms a bold specimen, the trunk being often divided into several large branches at but a little height from the ground. The branchlets are not nearly so numerous as in most individuals of the common Birch, and they have not the weeping tendency so noticeable in that kind. In both, however, the bark forms the most striking winter feature, but in totally different ways, for in the Red Birch the bark, which is of a kind of reddish cinnamon colour, partially peels off and remains attached to the main trunk and principal branches in good sized flakes, which give to a specimen of it a singularly wild and picturesque appearance. The new bark which is thereby exposed in patches is of a peculiar kind of brownish buff. A few good specimens of the Red Birch grouped together will in a fairly moist spot form a picture-like cluster in park or woodland scene. Truly they take command to form large trees, but they display the characteristic shedding of their bark while still young. Although bearing the specific name of *nigra* a still more sombre looking tree at this

season than the above is *Betula lenta*, known as the Mountain Mahogany. The bark of this is at the present time of a dull blackish hue, thus furnishing a direct contrast to our native species. This is during the growing season remarkable among the other Birches by reason of its larger leaves as well as longer catkins, but it is not very generally planted, indeed in some districts it does not appear to thrive particularly well. It is found throughout a wide district in North America and is there greatly valued for its timber, which is principally sought after by cabinet-makers for many purposes. The white bark of the common Birch is in some individuals very much more pronounced than in others, while from this feature our native species gives us an almost endless variety in the number and disposition of its branches and minor twigs, for one (*fastigiata*) is as upright as a Lombardy Poplar, while in direct contrast to this we have Yougri, whose long whipcord like shoots will sweep the ground. Between these two extremes numerous other forms occur. Two species with particularly silvery bark are the North American *Betula papyrifera* and the Japanese *B.*

T.

Cotoneaster rotundifolia.—A clump of this Cotoneaster at Kew forms one of the brightest features to be seen there at the present time in the open ground. It consists of a score or so of plants from a yard to 4 feet high, all of which are thickly studded with bright red berries. Nearly all the others have lost their fruits, perhaps from birds, but those stand forth unthatched. A few leaves have already dropped, principally from the upper portion of the very strongest shoots, but nearly the whole of them, which have now assumed a bronzy hue, still remain on the plants. As seen at Kew, it is certainly one of the very best of the dwarf Cotoneasters, but one does not always meet with such a brightly-coloured form under the name of *C. rotundifolia*, for it is frequently applied to a member of the *bxifolia* class, whose berries are a good deal duller in hue. One of the newest of the dwarf Cotoneasters, viz., *C. horizontalis*, has been again very beautiful this autumn, and it gains additional admirers every year. It is, however, now almost leafless. This last has the merit of being perfectly distinct, so that it is never confounded with any other which cannot be said of some of them, as a good deal of confusion exists among these dwarf Cotoneasters. The larger *C. Simonsii* is also very beautiful just now, and much the same may be said of the tree-like *C. frigida*.—T.

ORCHARD AND FRUIT GARDEN.

RIBSTON PIPPIN APPLE ON OWN ROOTS.

MOST gardeners know the uncertainty attending the culture of this highly-flavoured dessert Apple. Canker is the greatest enemy of this Apple, and it is little short of folly to plant it where the natural soil is heavy without making good preparation for the roots. A few years ago a Surrey nurseryman advertised trees of Ribston Pippin on its own roots, recommending them as resisting canker far better than those which were grafted. I purchased several, which were of course in bush form and not suitable for orchard planting. I am glad to say they have done well, making short, firm growth and fruiting fairly well, although it is but right to add the soil is light and well drained, this Apple doing well in it as a rule. My own experience is, and much of it was gained in Essex, a county noted for its many and good Ribstons, that it succeeds by far the best where the soil is sandy, on a gravel subsoil; and further, that the espalier form suits it remarkably well. When planted where the

soil is the reverse of this, provision should be made by first taking out, say, at least a good cartload of the natural soil, afterwards draining it well by means of clinkers, brick ends or similar refuse to a depth of 9 inches, and replacing the compost with good, sound loam of a sandy nature, adding a sixth part old mortar rubble in a fine state, elevating the trees somewhat above the ordinary ground level, and mulching with rough, leafy material in hot summers. Shallow planting is very essential, its value being proved by the fact that often when trees of Ribston Pippin are planted in a medium soil and do fairly well for a few years, canker sets in immediately the roots descend somewhat, a return to health generally taking place if lifting and replanting are practised. This fact points to the necessity of feeding the roots from the surface, this being done by giving slight top-dressings of loamy soil and rubble or charcoal every second year. This is my rule, and I find it answers well. In purchasing trees a thorough inspection is necessary, as sometimes young nursery stock of this variety is affected by canker, in which case it is useless planting them. Have any readers had any experience of the Ribston on its own roots?—J. CRAWFORD, in the Field.

Shortening Vine shoots.—I am very thankful to Mr. Iggleston for his answer to my question about shortening Vine shoots. As to the omission Mr. Iggleston alludes to, I have always understood him to take out the points of the laterals at the upper end as soon as possible. Mr. I. says: "The plan I advocate and practise is that of stopping young canes at the height or length at which they are to be left standing, and then tried this practice once, and then three or four of the dormant eyes started, so that I was afraid to try this stopping again. I stopped the young growing canes at a length of about 7 feet. The upper two, three, or even four eyes pushed forth. The one at the upper end I let grow unmolested till it reached the wall, where it was stopped. The two or three other ones formed very weak, small shoots, which were entirely cut away in the autumn. Did I act rightly or not? At the winter pruning the leader was cut right back to the stopped place. Unfortunately, I cannot understand the following lines of Mr. Iggleston. He says: 'The greater part grew strongly, were stopped at a length of 8 feet the laterals resulting at the first joint.' I have two vineries. In the earlier house are planted Black Hamburg, Foster's Seedling, and Madresfield Court; in the later one, Black Hamburg, Madresfield Court, and Gros Colman. Is the selection of the kinds what grow together good or not? Would it be better to grow Gros Colman in the earlier house and Madresfield Court in the later one? It is not very early freezing. In the first house the Grapes are ripe about the end of May; in the later house, some weeks later.—R. KATZER, St. Petersberg.

The Pear of the Century—Doyenne du Comice.—This Pear proves every succeeding year the best that has been introduced in our own time, as the stocks of fruit show not only in France, but in England. The better fruit comes from Guernsey. The supplies sent thence to Covent Garden have been beautiful. No pains should be spared in finding out what suits it best in each district or soil. As will be observed, with us find out what stock suits it best; and in the case of such a precious fruit as this, we, against the opinion of the trade, think that every person interested in the fruit should try at any trouble to see how no noble A Pear does on its own roots. To say this is not to say that it is a better way, but that it is most unwise, as the nurseriesmen of Europe do, to absolutely ignore the most natural method, and invariably use only grafting to increase their trees. We see sickly

Pear trees and with cracked fruit in many a garden, of which the true cause would be clearer to get at if there were trees on their own roots to compare with those grafted on the Quince and the wild Pear stock. As it is probable now that in the whole of Europe one could not get a single young tree of this Pear on its own roots (from cuttings or layers), our readers who wish to test it may know what to expect. To show the influence of the stock over the fruit, even when the influence is not wholly bad, we may speak of an instance lately seen in an excellent garden at Madresfield, where Mr. Crump, a good fruit grower and keen observer, showed us lately fruit of this Pear, both grown on the Quince and on the Pear stock, the fruit of the tree on the free or Pear stock being much larger and finer in form. If any fruit in Britain ever deserved to be studied thoroughly it is the Doyenne du Comice, whether we grow Pears for our private use or for market supply.—Field.

Pear Beurre du Buisson.—This most excellent January Pear is, I think, little known,

best fruits set close to the base of the spur growth. I always find long spurs barren.—S. H. B.

OUTDOOR GRAPES.

ALTHOUGH the amount of rain and consequent absence of sun experienced right away from the middle of August would seem to indicate the non-ripening of outdoor Grapes and a visitation of mildew, it was not really detrimental, but on the contrary the crop was very good both in quantity and quality. The long spell of hot dry weather right up to the date mentioned above was no doubt responsible for this as the fruit had advanced well on the ripening stage before the change of weather. A considerable number of articles have been devoted at different times to the culture of outdoor Grapes, some writers strongly advocating their cultivation on a more extensive scale, others protesting that they are not worth wall room. I

the berries of very fair size, considerably larger than in the average Sweetwater. The quality was decidedly good, the watery element that is often a feature in outdoor Grapes being absent, and instead, the berries were firm, solid, and sweet; in fact, to those who like a sweet Grape it is preferable to several of the showy indoor sorts. The fact that the well-known hardy sorts, like the Sweetwater and Black Cluster, do very well here will induce me to try the novelty, and I hope to report on its merits another season. There are few fruits that will go on bearing year after year without the slightest assistance of any kind in the way of extra soil or manure, as will the Vine when once established. The old Sweetwater mentioned above is in a well-frequented path that is as firm as a bit of macadam, and it certainly has had nothing extra for the last fourteen years. I work it on the spur system, the Vine going away from a



Fine White Frontignan on Mr. Wells' house at Earlswood, Redhill. From a photograph sent by Mr. W. Wells.

although it has been in commerce for a good many years. The late Mr. Ingram used to fruit it very successfully and regularly at Belvoir Castle, and considered it one of the best of its season. It is of medium size, just large enough, in fact, for the dessert. In walled gardens, where the produce is marketed, this would be a capital Pear to plant; as it is such a constant and heavy yielder that it would pay well, good Pears in quantity being then none too plentiful.—C. C. H.

Pruning Apricots.—I am not an advocate of severe pruning at this season if the tree can be given free extension, as one may have to make good a loss here and there, and it is well to lay in young growths. On the other hand, I strongly advise the removal of spurs which project a good distance from the wall, as if these are shortened there is a better chance of the fruit setting. In regulating the spurs one cannot with advantage dispense with those at all ungainly. Any close observer of this fruit will notice how often the

think one may reasonably adopt a middle course, and without going into ecstasies over them claim that they are certainly worth the room and a little attention bestowed upon them. Here they can always be relied on to ripen sufficiently to make some very good wine, and if a few of the best bunches are slightly thinned and are protected from wasps some sweet berries of very fair size can be secured. The cropping qualities of the particular Vine I have in view in penning this note are indisputable. It very seldom fails, and this year four bushels of fruit were taken from 400 square feet of wall. Those who are interested in the culture of outdoor Grapes will welcome the new sort lately shown by Mr. Will Taylor, of Hampton, which is known as Reine Olga. The colour, as seen by gas-light, was that of a dark Frontignan or a "foxy" Hamburg, the bunches were large and

central point with eight main branches horizontally trained on either side, the spurs on the branches being kept at about a foot apart. Occasionally one of the branches may show signs of weakness, and when this is so, a young rod is let go the following summer either from above or below to take its place. Better fruit is always obtained by a little special attention in the way of pruning, cutting all weak, thin growth clean away, and reserving strong shoots and buds for the next season's fruit. Black Cluster does not grow so strongly as Sweetwater, and the best fruit is obtained on the long rod system.—E. BURRELL, Claremont.

* * The Vine of which we give an illustration to-day is growing over the front of Mr. W. Wells' house at Redhill. It was planted about thirteen years ago in a hole dug out of an asphalted forecourt, some suitable soil being added. The Vine

was intended merely to give shade to the seed store which faces the sun. It is a white Frontignan, and has always fruited and given a satisfactory crop every season except a few years ago during a wet and almost sunless summer. This year the yield has been unprecedented, for Mr. Wells has cut for himself and friends upwards of 100 bunches of fully-ripened Grapes, which has been thinned, and were almost equal to fruit grown under glass. Altogether Mr. Wells estimates the crop to have been about 2½ cwt., and of the bunches which remained he has made 56 gallons of wine.

LATE PEARS.

I READ with interest Mr. Crawford's note on the above at p. 446, and am pleased to find he thinks so well of a few of the newer kinds, some of which this season with me have been excellent. I regret I am unable to go as far as he does as regards their keeping qualities. The really good fruits we have for spring use are very few; on the other hand Mr. Crawford is further north and with a different soil he may keep fruits much later than I can. Take Le Lestier. This fruits well with me, and is, as stated, a valuable addition to our late Pears; but I am unable to keep it after January, whereas Mr. Crawford gives March as its season. My trees are cordons and on a warm wall. Of course fruit from pyramids would keep better if grown in a cooler soil and an east aspect. It is a grand fruit. I only have it on the Quince, but I can testify to its value for crop and quality. I have not fruited President Babcock, but am pleased to see such a good fruit grower's opinion of it; we have so few Pears of any kind in April that it will be a valuable addition. The well-known Josephine de Malines, a most useful variety, is noted for its value in spring. I regret I do not get it good as it should be. It is a delicious Pear, but not one of our reliable kinds, as it is very shy and does not keep so late as one could wish. It lacks size, but given good culture, I found it one of the best in Gloucestershire, but then the soil was more suitable. Another grand fruit Mr. Crawford notes is Nouvelle Fulvie. This is a great favourite on account of its lateness and free cropping. I must own it is not a handsome fruit, being somewhat rough in appearance, but the quality is excellent and a grand January fruit (mine is now ripe). It does well as a pyramid. Its only failing is that it shrivels badly if not allowed to hang late on the trees. Mr. Crawford thinks a cool climate suits it, but such is not the case here. My finest fruit is produced on an east wall, but not so freely as from pyramid trees in the open. I note there is no mention of Duchesse de Bourdeax at p. 446, and I may remark it is well worth including in Mr. Crawford's selection of good late Pears. This is a large January to March fruit of a fine russet colour, flesh melting and richly flavoured. It is a fine cordon variety. This autumn I have planted it in the open. I tasted this fruit at the end of February, and it was delicious. I should think it will do in most soils on the Quince. Another Pear, not new but of fine flavour, is Bourr' de Boisoin, and though given as a December, or even later Pear it was ripe this season in November. The late Mr. Ingram thought it a grand variety, and it is one of the few which have found favour this autumn for flavour. Several noted at p. 446 I cannot grow as well as I could wish.—G. WYTHES.

To the late Pears mentioned by Mr. Crawford the variety Bourr' Perran must be added. An award of merit was given last season by the R.H.S. to this variety from a garden in this county. It cannot be called a new variety, as trees are scattered in various gardens throughout the county. I have a nice young tree growing against a west wall from which I gathered several fruits this season. This season it is ripe earlier than usual. It is certainly a grand addition to our late Pears, being of excellent flavour and fine grained, without the least trace of grittiness. I wonder if anyone could give its history. A few years ago I called attention to it in the

pages of THE GARDEN. Possibly now an award of merit has been awarded to this Pear, it may be largely called for, as it certainly well deserves extended culture. I note Mr. Crawford refers to Josephine de Malines as a February to April Pear; grown against a south or west wall its season is more like December. I once had a tree growing against an east wall, but the fruits never ripened, and they kept green and sound until far into the season, but of course these were useless. Josephine de Malines is of grand flavour this month.—A. YOUNG.

Alpine Strawberry des Quatre Saisons.—Last summer the above variety fruited earlier than usual, being in season in favourable weather well into October. Quatre Saisons is a fine variety and of delicious flavour. It requires annual planting to get size of fruit and long succession. The culture is simple. The plants are soon obtained in quantity from seed sown early in the spring in boxes and then pricked out into rich soil, or from runners.—G. WYTHES.

Colour in Gunton Park Strawberry.—I was pleased to read lately Mr. Wythes' remarks on this fine second early Strawberry, more especially about its colour. I know of no Strawberry which colours more deeply or more surely right to the apex than Gunton Park, and that, too, in seasons not remarkable for sunshine. I think this fact ought to be known as I recently saw it asserted in one trade catalogue that Gunton Park, although a remarkable Strawberry, would not be likely to become a market success on account of its having a white nose. Now this is not only incorrect, but very misleading, as I have grown it since its introduction, and have never seen one with a white nosed fruit. I know that market growers are taking it up in the neighbourhood of London, sufficient proof, I think, of its suitability for the purpose. It makes a most delicious preserve.—J. CRAWFORD.

Two useful Grapes.—Two Grapes which are seldom seen or heard of now-a-days, but which would be found very useful to those who need good flavoured varieties, early and late in the year, are Chaptal and Chasselas Musqué. The former is a small bunched variety of a pure yellow colour, not unlike Buckland Sweetwater, but smaller both in bunch and bunches. It ripens sooner, in fact, in a garden near here, grown with Black Hamburg, than fit for use ten days or a fortnight earlier than that variety. The bunches are of a most convenient size for table, while the flavour is very good. As to its cropping qualities, it shows bunches on almost every lateral, and it will hang for a considerable time without either shrivelling or decaying. The skin is very thin and the pulp sweet and refreshing. I cannot find any mention of it in the trade lists, but have no doubt it could be obtained. Chasselas Musqué is, of course, fairly well known amongst Grape growers, though the old school grew it more extensively than present day gardeners. This is another most useful Grape, resembling the Black Hamburg in appearance, and still more so Alnwick Seedling, and almost equaling the former in flavour. It will, with care, keep sound and plump well into the spring months, and, like some other sorts, notably Gros Guillaume, improves by hanging. The vine has a very hardy constitution and crops most freely. It will succeed well enough in a cool vineyard, but the finest bunches as well as the best flavour I have secured from a vine growing in a mixed house of heat-loving Grapes, ripening about the beginning of September.—C. C. H.

SHORT NOTES.—FRUIT.

Plum Pershore Yellow.—As "N. N." says in THE GARDEN (p. 440) it is surprising how rich this becomes when preserved. I planted three standard trees of it at Bickley about ten years ago. They never failed to bear a heavy crop after the second year of planting, and the birds do not peck out the buds as in

the case of the Green Gage.—J. NEIGHBOUR, Copped Hall, Epping.

Pear Hacon's Incomparable.—In reference to "J. C."s" inquiry as to this Pear, I know of a tree on the Pear stock growing against an east wall that was planted about twenty-five years ago. This was never free fruiting. What fruit it did bear possessed the good qualities that our leading growers give it.—JAMES NEIGHBOUR.

CHRYSANTHEMUMS.

HAIRY CHRYSANTHEMUMS.

MOST Chrysanthemum growers will remember the stir that was caused by the introduction of the forerunner of this modern race, Mrs. Alpheus Hardy, and the subsequent additions. The whole section, however, cannot be regarded as a very satisfactory one, because it is hard for the average Chrysanthemum exhibitor to bestow his approval on any novelty that is not likely to be of service to him on the showboard, and hairy varieties, either from want of size or beauty, seem to be but little appreciated. There may be excellent reasons for this lack of appreciation, just as there are no doubt for the opposition to the inclusion of certain mongrel Japanese incurred varieties in the old-established show section, but on these reasons there is no need to dilate at the present moment.

From a decorative point of view—that is, for groups of Chrysanthemums for effect—the hairy varieties are certainly well worthy of consideration. Grown to a moderate size and freely flowered, they lend an attraction to groups that one would little suspect, unless seen as I recently saw them in Belgium and in France. Unfortunately, so many varieties in cultivation in England are dull in colour and often appear by their curious fluffy nature to be stale, and this may account for the somewhat little use that has been made of them at our leading shows. On the Continent there seems to be a much greater variety of them than here, and I was much struck with the peculiar silvery lustre which is characteristic of the novelties mentioned below. Whether it is cultivation or climate that difficult to say, or it may be that these varieties are better than most of those introduced into England. Whatever the reason may be, it is a matter beyond doubt that hairy Chrysanthemums were frequently used at the Continental shows with very great effect, and materially enhanced the artistic arrangement of the groups in which they figured.

As all the readers of THE GARDEN are not growers and exhibitors of big show bloom, I have considered it useful to give a selection of those hairy sorts which appealed to me to be most worthy of cultivation by any who desire to grow them for decoration. They would also add very much to the beauty of a bouquet or bunch of Chrysanthemums in a vase.

Mme. SKARECK.—Japanese incurred, with very narrow grooved florets, very silky in appearance; pale bluish, with yellow shade in the centre.

Mlle. HENRIETTE BERLOZ.—A very large Japanese incurred, but thin; florets narrow and curly at the tips; silky bluish.

ABBE PIERRE ARTHUR.—Japanese, with medium-sized florets, loosely incurving; colour a glistening bronze.

BEAUTE LYONNAISE.—Like most of the section, a decided Japanese incurred, but having narrow florets and ball-like in build; colour dull crimson, centre golden.

DUVENT BLANC.—Japanese, and, as its name implies, white in colour.

SOUVENIR DE NICOLAS BELISSE.—Very pretty Japanese; colour bright terra-cotta, shaded golden bronze, reverse golden.

GLOIRE LYONNAISE.—A Japanese with very long drooping florets, good size; colour rose pink. **Mme. J. CHAURE.**—A very deeply built flower of the Japanese type; florets rather narrow and sharply pointed, long and drooping; colour deep reddish carmine, with reverse of gold.

PIÉMONTE DE ROUVELLE.—Florets sharply pointed; colour dull crimson, with reverse of golden bronze, tipped gold; an effective variety.

BOUÉE DES GORGES.—A Japanese incurved, with rather narrow grooved florets, very close and compact in build; colour very pretty pale pink, tinted yellow.

FLEUR LYONNAISE.—Japanese incurved, with flattish florets; colour dull rose carmine, reverse golden.

Mrs. LESLIE A. WARD.—Japanese, with long drooping florets and rather broad; colour a delicate shade of bright gold-cinnamon or buff, reverse bright golden yellow.

PROVOST POIRIER.—Japanese incurved, dull carmine-crimson with golden-bronze reverse, tipped golden; one of Calvat's new seedlings.

SOUVENIR DE MOLINES.—Japanese, with rather medium-sized florets curiously pointed and curly at the tips; colour golden bronze, streaked carmine-red.

Mme. FEHLAT.—Japanese incurved, with very narrow florets deeply grooved; white, shaded pink.

AMARANTHE.—Japanese, with narrow florets; colour indicated by the name, very rich and deep in tone, reverse silver.

HAIRY WHITE.—Japanese, with tips of pointed florets incurving, rather close and compact and a large flower; colour white, tinted yellow.

MME. N. REY JOUVIN.—A very pretty Japanese incurred, with broad grooved florets, blooms of good size and very globular, pretty shade of deep rosy pink.

ACAJOU.—Japanese incurred; colour inside deep crimson-chestnut, reverse golden bronze. This and the six preceding will probably not be put into commerce till 1898.

RAPHAEL COLLIN.—Japanese incurred; florets of medium width and grooved; colour a beautiful shade of golden bronze, reverse silvery yellow.

RACHAIS.—Japanese incurred; a very attractive variety; colour rich reddish golden bronze, reverse very bright gold.

MAURICE BOISSARD.—Japanese incurred with rather broad florets deeply grooved, and blooms very solid; pure golden yellow.

LÉOCADIE GENTILS.—A bright pale golden yellow sport from Enfant des deux Mondes.

THÈRESE JOUVINS.—Japanese incurred; florets very narrow and grooved and having a peculiar lustre; colour golden chestnut-bronze.

DRAGON.—Orange and gold; might be described as a hairy Edwin Molyneux, only the florets are much narrower.

C. HARMAN-PAYNE.

Notes on Chrysanthemums.—Will you tell me which of the following four kinds is the best and which can be discarded: Puritan, Louise, Eda Prase, and M. Guyer? Are Ivory and Gladys Rose worth growing? If so, for large or for small blooms? I should be very happy to know a yellow Chrysanthemum of true Japanese character which produces large and showy flowers and is of easy culture. The way and of the form of Charles Davis, but not a clear yellow or golden hue; the growth must not be too tall. Just now Souvenir de Petite Amie has flowered with me for the first time. I doubt if it be true. The plant is very dwarf, bloom white, large but very flat, with narrow, spreading florets. If this description answers to Souvenir de Petite Amie, then I confess that I am not satisfied with it. Nivous, just opening for the first time, looks very promising. Mme. Thérèse Rey has splendid blooms, but the growth is too tall. Alberic Lunden I have discarded. Of Mme. M. Ricoud, the growth is rather tall, but the flowers are fine. Amy Chandler is a very nice white kind, capital growth, and the blooms of a charming form. To-day I discarded Peter the Great, and put in its

place Mrs. T. S. Fogg. Mme. Carnot is just opening with me. The colour of Commandant Blusset when opening is very fine indeed, and very like that of the old E. Audouin, but when the blooms are fully open, then they lose much of the liveliness of the hue. I cannot understand W. Seward; one always hears of it as the best dark variety. Its colour is when opening splendid, but when fully open all the beauty is gone; then there is a faded hue. The stalks are too weak and do not support the blooms. I hoped Deut de Ferry might be of a similar colour, but I was mistaken; it is just opening and looks like amaranth. G. Childs behaves rather strangely. I grow of this sort about a dozen plants. Some flowers are very fine, rich velvety crimson and opening well; others are orange red; the florets curl, will not open, and finally damp off.—R. KATZER, St. Petersburg.

NOTES OF THE WEEK.

Pelargonium Niagara.—The name here chosen is indicative of the snow-white trusses of the variety. Individually the blossoms are very large and well formed, thus making it a most acceptable kind.

Begonia Haageana.—This has much to commend it to growers of the winter-blooming section of these plants by its very profuse flowering, the large heads of showy flowers being very effective in the warm greenhouse at the present time.

Poinsettias.—These fine decorative stove plants are now at their best in many gardens, and the vivid colouring of their brilliant scarlet bracts is displayed to great advantage beneath the usually leaden sky at this season of the year. In decorations of the choicest kind these are among the finest plants that can be employed.

Araucaria Balansae.—The small example of this species with its solitary cone growing in a pot in the Palm house at Kew gives but little idea of the great height to which the plant attains in its native habitat of New Caledonia. Here it is said to reach 130 feet to 160 feet high, and, from its very distinct habit, must form an attractive plant.

Tulip bulbs with three flowers.—I have enclosed you a few Prospérois Tulip bulbs. Two of them have three perfect flowers on each stem and the others have two flowers. I have had several come at different times with two flowers, but have never had them with three flowers before. Is it not a very uncommon thing for Tulips?—W. RICHARDSON, Ha-Sock-Nursery.

Peristrophe speciosa.—If quaint rather than beautiful in its individual flowers, this plant, nevertheless, becomes attractive by reason of the number of its blossoms. These latter are of a purple or mauve-like hue, a curious mixture and somewhat rare among greenhouse plants. Its compact habit fits it for association with many things, while it will be welcomed for its long continued flowering.

Rocnea falcatia.—This vigorous succulent is now producing its large heads of brilliant flowers, and a few plants are always attractive at this time. Frequently capital results ensue where some strong tops are taken in April and May and rooted in a sandy soil, afterwards growing them on in 5-inch pots. The flowering period from such plants, however, is not always the same, as much depends on the strength of the cuttings as also the season of growth.

Agave Kerchovei var. major.—This is the corrected name of the species recently referred to in THE GARDEN as A. Roelz. The fine example now flowering in the great Palm house at Kew is composed of several rosettes, the central one of which has produced an erect, columnar inflorescence from 12 feet to 15 feet high. The blossoms are of a pale creamy white, slightly tinged green, as near as could be determined, as

the expanding flowers were fast approaching the top.

Rhododendron Little Beauty.—This is a wonderfully free-flowering variety, as demonstrated in the little shrub shown last week being crowded with its compact trusses of flowers. These latter are very brilliant in colour and most difficult to correctly describe. The colour appears to be a mingling of crimson and vermilion, and the flowers are very striking as well as attractive at this season. Little Beauty is a hybrid between Monarch and Malayatum.

Choisya ternata in pots.—Well known as a choice shrub in the sheltered portions of the garden, the above is perhaps too rarely seen in pots. Even if it did not flower at all the glossy foliage which is so abundant is always pleasing, and in the cool house or orangery it would prove effective in large tubs. In such places its pure white and scented blossoms would be sure to meet with due appreciation, and where ample root room was afforded success would almost of a certainty follow.

Agathaea celestis.—As a winter flower, the charming Daisy-like blossoms of this are very beautiful, the colour good and the flowers available on good stems. Few things are more profuse flowering. Particularly is this true of old plants that have been cropped over once or twice during summer; such plants grown in 8-inch pots will yield a surprising lot of bloom, useful alike for small vases or the dinner-table throughout the winter. The plant is easily managed, and should be more frequently grown for winter flowering.

Escaris hyacinthiflora candidissima.—This is a very fine variety with snow-white, erect trusses of bloom, the spikes being densely clothed with flowers for at least 18 inches of their length. Among the erect growing kinds this is certainly one of the finest whites, while the pink-flowered form, E. hyacinthiflora, is equally noticeable for its long, compact spike and the dense manner in which it is studded with bloom. A few plants of each kind are well worthy of cultivation, the flowers lasting some time in good condition in quite cool structures.

Benthania fragifera.—This has for a long time been very ornamental with its numerous red berries, the weight of fruit bending down many of the branches to the ground. I have never seen so many berries on the trees before. The berries seem much more palatable than usual, as the birds are taking them several weeks earlier than in other years. This may have been caused by the unusually dry, hot summer. I wonder if the beautifully flowering tree is not more generally planted, as it has stood 25° of frost here with comparatively little injury.—W. O. FOAT, Cork.

Rhododendron Princess Alexandra.—In spite of the fact that this variety has been previously noted in THE GARDEN, the fact is yet worth recording that a compact bush about 2 feet high and the same through has been in flower for upwards of two months and in quite a cool greenhouse. At the present time it is carrying upwards of half a dozen of its magnificent trusses of bloom. The flowers are usually termed pure white, but in reality the shade is bluish-white. For winter-flowering it is one of the gems of the whole race and should be grown in all collections.

Carnation Mme. d'Albertins.—For winter flowering this fine Carnation will quickly supersede the better-known Mme. Thérèse Franco. The colour is a full rose-pink, scarcely so deep in the former as in Mme. T. Franco, while the flowers are nearly twice the size and open perfectly in mid-winter. Plants of this fine variety were shown by Messrs. Crane and Clarke, of Cambridge, at the Drill Hall last week. Worthy of note, too, is the fact of so large a flower having a perfect calyx, while after being a week in water, one of the blooms exhibited is nearly as good as ever.

Senecio grandifolius.—A large group of this giant of its race may now be seen in No. 4 greenhouses at Kew. The plant is of such noble aspect that one regrets it is not perfectly hardy, and

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therefore suitable for bold positions in the wild garden. The large corymbs of flowers which terminate the giant stems are individually small. The largest of the Kew examples is about 6 feet high, the handsome deeply toothed leaves being about 18 inches long and 12 inches broad. Doubtless if specially grown for the purpose the plant would make a fine subject for the bolder sub-tropical garden, and be productive of fine effect.

Apinia mutica.—Quite recently the plant bearing this name was flowering splendidly in the large Palm house at Kew. There were three flowering growths on the example in question, the blooms, some thirty in number, appearing in a terminal spike-like raceme. The buds prior to expansion are pink, but presently a white calyx is revealed, as also a duplex corolla, the lip of which is large and of a bright orange-yellow, curiously veined and striped with crimson. This beautiful and graceful species comes from Borneo, and requires a high temperature to grow it successfully.

Iris stylosa alba.—The above Iris has been in flower here for several weeks, and is still throwing up numerous flower-buds. This profusion of flower has doubtless been caused by the extremely dry summer, and, judging from this experience, in order to get this plant a flower freely it should be planted on the hottest and driest situation that we can find. If the flower-buds are cut just before they open they last for a long time in a vase or flower glass, and with a few green leaves or fronds of Maiden-hair Fern they look delicately ornamental as many Orchids. Their delicate perfume is another advantage.—W. O., *Foto, Cork*.

Senecio macrococcus.—The Cape Ivy, as this plant is called, is one of the few climbing species of this great genus, producing its somewhat ivy-like leaves on smooth glossy stems. Now again the plant may be seen growing trained to a trellis, though it is infinitely better suited for a rafter near the glass, when having laid in the main growth allow it much its own way. Thus grown the plant has a rather pretty appearance, producing its flower-heads along axillary peduncles and giving a profusion of them over a long season. The ray florets are of a pale yellow hue. The plant is now flowering in the succulent house at Kew.

Carnation Wm. Robinson Improved.—This variety was exhibited at the Drill Hall last week and obtained an award of merit, the floral committee, however, refusing to sanction the latest addition to the name. Possibly, without seeing the two forms, they were justified in so doing. As I have seen both kinds, I hesitate not to say they are quite distinct in habit and flower, the "improved" kind being an infinitely brighter and more vivid scarlet, without the dull leaden hue that is noticeable in the original. Had the habit been identical, the improvement might have been referred to better culture in some instances. It is to be regretted the Messrs. Crane and Clarke had not staked an equal number of each kind to show the distinct habit of growth.—E. J.

The weather in West Herts.—The past week proved very cold, particularly during the daytime, the temperature of the air in shade until to-day (22nd) at no time rising higher than 36°, and throughout the day (18th) remaining below the freezing point. On the second night the exposed thermometer indicated 18° of frost, which is the greatest cold registered by it as yet this winter. At 2 feet and also at 1 foot deep the ground is now about 3° below the average for the month. No rain fell during the week, but on two days there were slight falls of snow, that on the 17th nearly covering the ground. The atmosphere was very calm, the highest rate of movement at 30 feet above the ground amounting to but 6 miles an hour. The weather has again been very dull, no sunshine at all being recorded on four days, and less than an hour on two other days.—E. M., Berkhamsted.

Grub destroying Primulas.—I send you a small box containing a Primula destroyed by some grub that has penetrated the plant at the collar,

as you will see. It is a new experience for me, and I should be glad to know what the grub is, and if it is peculiarly attached to Primulas. I have lost several plants in this way.—J. D.

* * * Your Primulas are attacked by the grubs of the black Vine weevil (*Otiorrhynchus sulcatus*). These grubs are very fond of the roots of Ferns, Primulas, Cyclamens, Begonias, Strawberries, and other soft-rooted plants. Insecticides cannot be made to reach them with any effect. The only thing to do is to turn them out of the roots. The weevils feed on the leaves of Vines, Ferns and various other plants, but only at night; they hide themselves most cunningly during the day. They may be caught by laying a piece of white paper which they are feeding on their sides over a sheet under the plant, and then after dark turn a bright light suddenly on the plants and the weevils generally fall; if they do not, shake the plants smartly. The weevils are nearly black and about three-eighths of an inch in length. The clay-coloured weevil, a very near relative to the other, is rather smaller, but has the same habits.—G. S. S.

The Decdar Cedar.—Mr. Simpson is not apparently finding much support in his championing of the Decdar, as the following remarks in a contemporary will show: "I am glad to hear of its growing so finely at Worley, but it does not do so generally in Yorkshire; and the notion that it would have made a profitable plantation, even there, is quite a mistaken one. Forty or fifty years ago the East India Company imported into England several tons of Decdar seed, thinking that so valuable and hardy a timber tree ought to be planted extensively in England. I have never heard that any valuable timber has been the result of that importation, and I never expected that such would be the result."—C. W. STRICKLAND.

— We have a letter from Mr. F. W. Moore, curator of the Botanic Gardens, Dublin, about the hardiness of the Decdar in Ireland. He writes: "As to the hardiness of Cedar of Lebanon and Decdar in less favoured parts of Ireland, my opinion is, from observation, and the opinion given me by several whom I consulted, is that the Decdar is a much inferior tree to the Cedar of Lebanon. I have had Decdar at Glasnevin raised from seed which were severely injured by frost. I think it is a most unsatisfactory tree."

SOCIETIES AND EXHIBITIONS.

HAMBURG INTERNATIONAL HORTICULTURAL EXHIBITION.

The Board of Agriculture have received information through the Foreign Office that an international horticultural exhibition will be held in Hamburg from May 1 to September 30, 1897, under the presidency of the burgomaster of that city. Besides a general "permanent" exhibition outdoor and in door, open throughout the summer, arrangements have been made for special exhibitions of plants, &c., at different seasons. The permanent exhibition will consist of various classes of trees, shrubs, herbaceous plants, groups of plants, technical appliances, garden plans, preserved fruits, wines, and dried flowers and grasses. Except in the case of living plants under cover, scientific botanical objects, and garden plans, for intending competitors should give notice of their intention to exhibit by March 1, 1897, entries for the permanent exhibition closing on November 1, 1896, and exhibitors of technical, industrial, and artificial products applying after the latter date must, if their exhibits are accepted, pay double rates for the rental of spaces. Gold, silver, and bronze medals, as well as money prizes, will be awarded.

The dates of the special exhibitions, and the latest dates by which all applications must be received, are as follows:—

1. Spring exhibition from May 1 to 7, 1897, for

plants in season (groups, single plants, novelties). Entries close March 1.

2. First special exhibition, May 30 to June 3, for Pelargoniums, floral arrangements, early vegetables. Entries close fourteen days before the opening.

3. Second special exhibition, July 2 to 6, for Gloxinias and other bulbous plants, Roses (cut flowers), cut flowers or twigs of trees and shrubs, floral arrangements (to consist chiefly of Roses). Entries close fourteen days before the opening.

4. Third special exhibition, July 30 to August 3, for Begonias, Carnations, cut flowers (Dahlias, Gladioli and Carnations), fruit trees in pots. Entries close fourteen days before the opening.

5. Autumn exhibition, August 27 to September 5, for plants in season in pots (groups, single plants, novelties, &c.), floral arrangements, vegetables. Entries close August 1.

6. Fruit exhibition, September 17 to 30. Entries close September 1.

All applications for space, as well as for full particulars as to rent, conditions, prizes, &c., should be addressed to the offices of the exhibition, 3, Große Reichenstrasse, Hamburg.

Royal Gardeners' Orphan Fund.—A meeting of the executive committee was held on Dec. 18 at the Hotel Windsor, Victoria Street, Mr. W. Marshall in the chair. The chief business of the committee was the selection of the candidates for election at the next annual meeting, which is announced to be held on February 19 at Anderston's Hotel. The following special donations were reported as having been received: Mr. J. J. Nelson, Chesterfield, £3 15s. 2d.; Mr. H. Herbst (box), £3 12s. 7d.; Shirley and District Gardeners' Mutual Improvement Association, £2, proceeds of concert; from Mr. Barber, Highbury, Birmingham, 17s., and other smaller sums.

MR. ANTHONY WATERER.

The following interesting note is from the *Garden and Forest* about the late Mr. Anthony Waterer:—

Anthony Waterer died at Knap Hill Nurseries, at Woking, in Surrey, on November 16, after a short and painless illness in the seventy-sixth year of his age. He is most widely known as the originator of many of the best hybrid Rhododendrons in cultivation, and he and his predecessors in his family did more than any other firm to popularise the cultivation of Rhododendrons, Azaleas, and other hardy shrubs of this class. The Knap Hill Nurseries, which had long been notable, grew in size and reputation under Mr. Anthony Waterer's management, and at the time of his death had become probably the greatest nursery of hardy plants of the kind. For Rhododendrons, hardy Azaleas and the choicest conifers it had no rival. Anthony Waterer had many correspondents in the United States, and his connections here date from the time of Downing, who imported plants from Knap Hill for the Capitol grounds at Washington. After Downing's death the unpaid bill for these plants was found among his papers by his executor, Henry Winthrop Sargent, of Fishkill. Mr. Sargent was a classmate of Charles Sumner, and through his assistance he succeeded in obtaining from Congress an appropriation to pay this bill. From this sprang the friendship which existed for years between Mr. Waterer and Mr. Sargent, who for many years was one of the principal horticulturists of the United States. From this friendship others sprung, and gradually all the principal cultivators of hardy trees and shrubs in the United States became friends and clients of Anthony Waterer, who for years had devoted special attention to breeding Rhododendrons capable of supporting the climate of America. A man of high integrity, rough in manner, but kind of heart, Mr. Waterer was a type of the English cultivator of the old school not often seen now. We all owe him a debt of gratitude for the plants he has produced for us, and those who have had

the advantage of his friendship will never forget his strong and interesting personality.

There is one thing we omitted to state in our account of Mr. Waterer and which is not mentioned in the above, that while other nurserymen, and even editors, are very apt to laugh at the claims we are urging of the necessity of trying ornamental shrubs and trees on their own roots, he was not at all of that class, but saw it was right, and was wisely preparing for it, so that in his nursery only could we find many examples of Rhododendrons on their own roots.

OBITUARY.

THE REV. CHARLES FELLOWES.

I DESIRE to have to inform you of the death, at the age of eighty-four, of the Rev. Charles Fellowes, the president of the National Dahlia Society, which took place at the Rectory, Shotesham, Norwich, on the 17th inst. He had held the living for 58 years, his appointment dating from 1838. What is known as Florists' flowers found him in a great admirer, and for the past sixty years he took an enthusiastic interest in and grew them, raising many new varieties of Dahlias, Picotees, and Pinks in particular, and a few which have become standard varieties. One of the earliest-flowering Dahlias was Cassandra, sent out by the late Mr. Charles Turner in 1846, and since then all his new varieties were distributed from Slough, also Picotees and Pinks. Among the leading exhibition Dahlias of the present day of Mr. Fellowes' raising may be mentioned Agnes, Canary, Diadem, Goldfiner, Maud Fellowes, Prince Bismarck, Prince of Denmark, Sunbeam, and Sunrise; and of the fancy section, Laura Haslam, Hero, Prince Henry, and Sailor Prince.

With Picotees Mr. Fellowes was especially successful, having raised many the late Mr. E. S. Dodwell termed "glorious varieties." One, Mrs.

Payne, a heavy rose edge, has figured more prominently at Carnation shows than any other variety. Sent out in 1878, it is yet foremost in its class for purity, shape of petal, and finish. Other fine varieties raised by Mr. Fellowes are Princess of Wales, Duchess of York, a fine new variety not yet distributed; Clio, of the present year; Morna, Countess, Haidee, Galatea, Jaliste, Evelyn, &c. The laced florist's Pink found in him a great admirer, and he raised many new varieties, chief among them The Rector, which was distributed a few years ago, also Princess Louise, Favourite, Enchantress, Bessie, Lustro, Ophelia, Pandora, Zos, Eurydice, &c.

Mr. Fellowes' attempts at raising new seedlings show Pelargoniums were scarcely so successful, but some years ago one of his seedlings, *viz.*, Ariel, Daisemond, and Lucifer, were among the best varieties of the time. As an amateur cultivator of Roses he had at one time a good collection as anyone in the country, and the Rose was one of his favourites to the last. His greatest triumphs as an exhibitor were with Dahlias, and thirty years or so ago he could defeat such growers as Dodds, Robinson, &c., and it was with great glee he would recount his triumphs over these and other opponents.

In many aspects of country life he excelled : he was a successful farmer, having a farm attached to his rectory from which he obtained fine crops ; as an excellent shot and a keen rider to hounds he at one time was also widely known. The poor of his parish found in him a sympathising friend and helper.

an open space. A proposition to acquire only 2½ acres of the land having been defeated, the following resolution was carried by 50 votes to 8 : That whilst adhering to the opinion that the price demanded by the City Corporation is (having regard to the purpose for which the land is required) an exorbitant one, the vestry, in the interests of the densely-populated area affected, resolve to purchase the land in question for £16,000.

Preservation of Dartmoor Forest.—The Plymouth Corporation has passed a resolution expressing satisfaction at the efforts which are being made to prevent further encroachments on the forest of Dartmoor. It also approved of the proposal that the forest, with all its rights and privileges, should be acquired by the county of Devon, and decided to offer to bear its proportion of the cost of such acquisition, subject to the stipulation that all objects of antiquarian interest should be preserved from injury, and that the body charged with the duty of regulating the forest should be armed with full regulative powers, consistent with the rights of the commoners, for the preservation of indigenous plants and animals.

"The Postmen's Park."—The purchase of the vacant space in Little Britain, adjoining the Aldersgate Garden, better known as the "Postmen's Park," is now in course of execution. The London County Council have approved of the payment to the fund of £500, as had been recommended by the Open Spaces Committee of that body. The Fishmongers' Company has generously forwarded 100 guineas, the Mercers', Skinners' and Merchant Taylors' Companies have subscribed 50 guineas each, the Goldsmiths', Grocers' and Drapers' Companies £50 each, the Cooks' Company 10 guineas, and the Joiners' Company £5. It is hoped that the total amount subscribed will defray the cost of laying out the additional space and railing it in.

Names of fruit.—*Dr. Wright.*—1, Blenheim; 2, specimen too small to identify.

PUBLIC GARDENS.

New open space at Islington.—A special meeting of the Islington Vestry was held last night to settle finally the proposed purchase from the Corporation of London of the vacant land at the Islington Cattle Market, for the purposes of





